

Providing Information and Services Using the Internet Guideline

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Table of Contents

1.	INTRODUCTION	2
1.1	About this Guideline	2
1.2	Methodology.....	2
2	DEFINING YOUR REQUIREMENTS.....	6
2.1	How to Define Requirements	6
2.2	Defining Users' Needs	7
2.3	Defining Business Needs.....	9
2.4	Developing your Business Case	9
3	PLANNING YOUR WEBSITE.....	11
3.1	Management issues in planning	11
3.2	Project Planning Components	12
3.3	Establishing a Project Team	13
4	DEVELOPING YOUR WEBSITE.....	15
4.1	Website Design	15
4.2	Developing Content	18
4.3	Website Statements.....	21
4.4	What to Include on Your Site	24
4.5	Content Accessibility	28
4.6	Metatags and Metadata	31
4.7	Technical Considerations.....	32
5	IMPLEMENTING YOUR WEBSITE.....	35
5.1	Hosting your Website.....	35
5.2	Testing	36
5.3	Registering your Website.....	37
5.4	Marketing your Website	38
6	MAINTAINING YOUR WEBSITE	40
6.1	Monitoring your Website	40
6.2	Maintaining Content	41
6.3	Electronic Record-keeping.....	42
	APPENDIX A - GLOSSARY	43

1. Introduction

1.1 About this Guideline

This Guideline is issued by the Office of Information Technology, in support of the [Information Management and Technologies \(IM&T\) Memorandum 5.1: Provision of Information and Services Using the Internet](#). A revision of the Guideline was issued in October 1998 to reflect and support two NSW government initiatives being the [Information Management and Technology Blueprint](#) for New South Wales, and [connect.nsw](#), an Internet Strategy for New South Wales.

Further commitment by the NSW Government has been demonstrated by providing the electronic delivery of all appropriate services by December 2001. In addition new technologies, content management issues and delivery strategies have emerged, with implications for government Internet service delivery.

This revised Guideline:

- Provides guidance to NSW Government agencies in the delivery, management, maintenance and quality assurance of their information and services using the Internet;
- Ensures the alignment of agency Internet initiatives with [connect.nsw](#) and [ServiceNSW](#);
- Supports the alignment of agency Internet initiatives with the government commitment for electronic service delivery.

The focus of this Guideline is using the Internet to deliver information and services, but this may also involve access to other electronic delivery channels, such as:

- Intranet, where it is shared by two or more separate agencies;
- Interactive voice recognition (IVR);
- Call centres;
- Digital TV

1.2 Methodology

Guiding Principles

In developing your Internet presence, your agency should be guided by the following principles:

Service orientation

All offerings on your website should serve a purpose in terms of providing existing or new services to your customers.

Customer focus

Your website should be designed from a customer perspective, rather than from an internal point of view.

One government

Understand that the community may not know the structure of government and prefers to deal with government as a single entity, rather than transact business with individual agencies.

Whole of government perspective

Take a whole of government perspective, rather than an agency centric approach in the provision of information and services to the community.

Sector context

Be aware of other agencies operating within your sector or agencies with related activities. Look for opportunities to undertake cross-agency initiatives to provide integrated information and services to community.

Equity of access

Your information and services should be accessible to the largest possible number of users across the various sections of the community.

In addition to these guiding principles, agencies should be aware of Code of Conduct principles governing all NSW Public Sector officers in their delivery of services to the community. These are outlined in the *Personnel Handbook* and *Code of Conduct Guidelines* issued by the [Premier's Department](#).

Planning your Service Delivery

Planning for your Internet services should include:

- Reviewing the legislation under which your agency operates, to make sure that it does not prevent you from undertaking electronic service delivery;
- Considering whether services currently delivered using conventional channels (e.g. over the counter, telephone, hardcopy dissemination, etc) are suitable for online delivery using the Internet;
- Streamlining current services to provide integrated services (with other agencies) to meet the needs of customers;
- Progressing current electronic services from partial to full delivery using the Internet;
- Refining current services delivered using the Internet to reflect findings from QA reviews;
- Identifying new services to be delivered using the Internet, based on feedback from customer surveys;
- Considering the likelihood that availability of online services will decrease usage of other delivery channels such as telephone, over the counter and distributing hardcopy.

Developing and Managing your Internet Presence

Developing and managing your Internet presence should incorporate a series of phases, supporting continuous improvement.

Defining your requirements	<ul style="list-style-type: none">• Identify your users' needs and your business needs;• Identify the information and services to be provided;• Develop your business case;• Clearly set out the objectives and outcomes of your website;• Work out priorities and staging for implementing requirements;• Identify the benefits of the Internet information and service delivery.
Planning your website	<ul style="list-style-type: none">• Define and structure the project;• Establish the project team;• Develop the appropriate plans: Management Plan, Quality Plan,• Risk Management Plan, Change Management Plan, Benefits Plan as appropriate.
Developing your website	<ul style="list-style-type: none">• Establish the design elements and design standards to be used on the website;• Design the information structure and navigation;• Develop the content of your website and make sure it is accessible;• Establish IT platforms and applications to deliver the content.
Implementing your website	<ul style="list-style-type: none">• Test the website structure, navigation and content on a range of client platforms;• Register and market your website;
Maintaining your website	<ul style="list-style-type: none">• Manage and maintain your website on an ongoing basis;• Undertake periodic reviews and QA measures to monitor the quality and currency of the information and services provided.

ITS Panel Contracts

NSW Supply Period Contracts are standing offer-to-supply agreements that have been arranged by public tender for the supply of products and services for a specified period (usually three to five years). Examples of ITS contracts vary from Printer and Facsimile Contracts, Cabling Contracts, Mobile Telephone Contracts to Provision of Internet Services and Products. See:

<http://supply.dpws.nsw.gov.au/user+guides+and+publications/user+guides/information+technology.htm> for online information

ITS 2305

Where you need to use external providers for developing and hosting your website, you are required to use the ITS 2305 Panel Contract (Provision of Internet Services and Products). Exemptions are acceptable where the required product or service is not available under this contract.

Further information about ITS 2305 can be obtained from the Information Technology Service, Department of Public Works and Services, phone (02) 9372 7609.

ITS 2036 –Software Development Contractors (Fixed Price)

ITS 2036 is a new contract which provides Agencies with a panel of Software Development Contractors who will supply their services on a fixed price basis. The Contract commenced on 1 September 1999 and runs for a period of four years.

Further information on ITS 2036 can be obtained from the Information Technology Services Branch, Department of Public Works and Services, phone (02) 9372 7680.

ITS 2068 — Integrated Government Network Services Agreements

Integrated Government Network Services (GNS) are ‘industrial strength’ Internet-like services. They share common standards with the Internet, are widely available and easy to connect to, but they have features not found on the Internet such as additional security, and defined levels of service such as response time. GNS Agreements allow agencies to contract with any successful tenderers for the services offered.

They also provide for developing and trialling innovative services and, where mutually agreed, including them in a formal service agreement.

The agreements are designed to support the Government’s strategic initiatives, as outlined in the NSW Government’s [Information Management and Technology Blueprint](#) for NSW and [connect.nsw](#). They also complement the Government’s current Strategic Relationship Agreements (refer to [IM&T Blueprint Memorandum No. 6.4](#) and [current Mobile Telephony and Related Wireless Services Agreements No. 6.5](#)).

For further information about GNS or GNS agreements contact:

John Simon, Office of Information Technology
Phone (02) 9236 7749
Email john.simon@ditm.nsw.gov.au

Greg Harrigan, Office of Information Technology
Phone (02) 9236 7691
Email greg.harrigan@ditm.nsw.gov.au

ITS 2323 — Records and Information Management Systems

To be released soon. For further information contact the Department of Public Works and Services on 9372 7600.

2 Defining Your Requirements

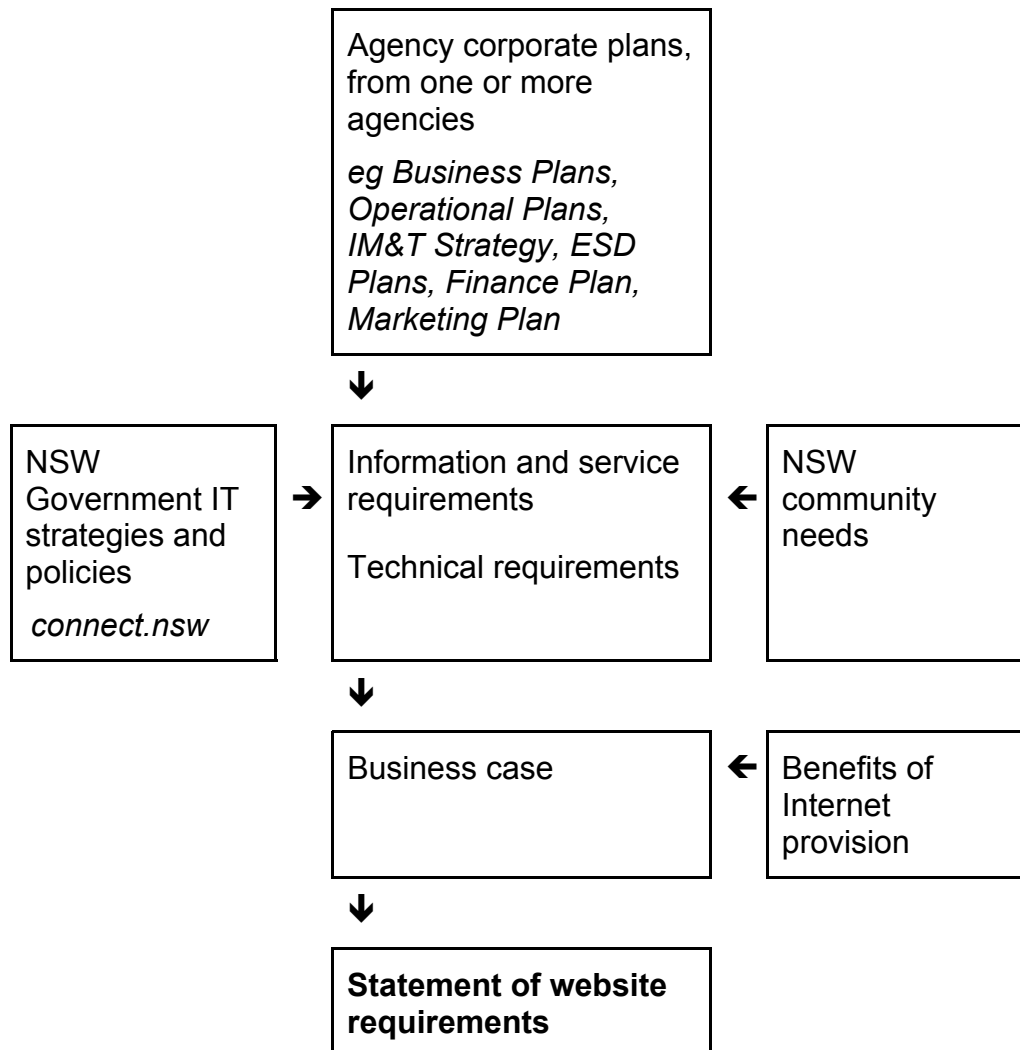
2.1 How to Define Requirements

Before you develop your Internet presence you need to clearly identify what your agency and other stakeholders will require from your website. Broadly speaking you need to analyse your users' requirements and your business requirements, because this will help you to determine the approaches, content, services, and functionality appropriate for your website. You also need to identify the benefits to be gained from providing information and services using the Internet.

There are four main inputs into the process of defining the requirements for your website:

- NSW Government IT strategies and policies;
- NSW community needs: your users' needs;
- Agency corporate plans, for all agencies involved;
- Your business case.

Defining your website requirements



2.2 Defining Users' Needs

Users' Perspectives

Users' needs have to be identified and defined from *their* point of view. Getting this perspective right, and incorporating the users' perspective at the beginning of the web development process, is one of the most important aspects of making your information and services accessible and useful.

The following question will help you define your users' needs – who are your customers? Think about internal and external customers. Categorise them into groups, and for each group consider the following questions:

- What information and services do they require?
- What information and services should be provided via the Internet to help them operate their business?
- What tasks do they have to perform that the Internet could help them with?

- What are their preferred delivery channels?
- What accessibility issues have a bearing on their use of the Internet (eg sight impairment, community languages.)?
- What are their technical access requirements (eg modem speed, bandwidth, common browser types/versions and IT platforms.)?
- How will you know whether Intranet-provided services meet their needs?

Where a project involves collaboration between agencies, it is important that you consider the provision of information and services collectively in order to avoid duplication. For example:

- Occupational health & safety requirements, monitoring and enforcement;
- Public health regulations and monitoring;
- Environmental/waste disposal guidelines.

Identifying Users

Your users might be:

- Other government agencies;
- Corporations;
- Small businesses;
- Members of the general community;
- Community-based groups;
- Disadvantaged groups;
- Industry professionals;
- Tertiary, secondary or primary school students.

To identify your users' needs, you need to involve the full range of people who will use your website. Consider:

- Culturally and linguistically diverse groups;
- People with disabilities;
- Indigenous peoples;
- Remote and isolated groups;
- Are there any other special needs?

These groups will help you to identify requirements relating to:

- Accessible design;
- Community language provision;
- Bandwidth and telecommunications access;
- Choosing other delivery channels.

Identifying Users' Needs

Some of the service providers listed in Panel Contract ITS 2305 specialise in identifying user needs and market research. It is standard practice for a small fee

to be paid to people who participate in focus groups or feedback interviews, so service providers' fees may reflect these costs.

Alternatively, if you have appropriately skilled resources, you may wish to conduct your own analysis of users' needs.

2.3 Defining Business Needs

Information and Service Requirements

You should consult a range of sources to establish your business needs, including:

- NSW Government IT Strategies and Policies, for example NSW [IM&T Blueprint](#), [connect.nsw](#);
- Agency corporate plans, for example the current Business Plan, Operational Plan, Finance Plan, Marketing Plan, IM&T Strategic Plan, Electronic Service Delivery Plan for your agency and other agencies too if relevant

These sources should reflect overall government policy directions. However it is recommended that you also consult the whole-of-government policies and guidelines issued by the following agencies:

- [Cabinet Office](#);
- [Department of Information Technology and Management](#);
- [Premier's Department](#);
- [State Records](#);
- [Treasury](#).

Due to differences in planning cycles, these sources may contain up-to-date information about current policy initiatives that may not yet be covered in other agency documents.

2.4 Developing your Business Case

To prepare your business case use the [Business Case Development guideline](#) issued by the Office of Information Technology.

Setting priorities

After your users' needs and business needs have been identified, you need to determine priorities for satisfying these requirements by considering the following:

Whole-of-government presentation

How can you provide an Internet presence that enables the community to access related information and services distributed across two or more agencies?

Low cost, high value services

Which services can be delivered via the Internet at low cost with a high return in benefits to your agency, other agencies involved, government and the community?

'Quick wins'	Which services can be implemented soon, to bring early benefits to your agency, other agencies involved, government and/or the community?
Political sensitivity	Which services contribute towards achieving the government program?
Essential services	Which services form an essential part of your agency or other involved agency's programs?

By prioritising your requirements you can adopt an incremental approach to implementing your Internet services, and progress in defined phases. Your business case needs to outline development costs and benefits for each phase. This is essential to obtaining funding support and accountability for the project.

Benefit analysis

In your benefit analysis, consider the following:

Benefits to the Community

- improved service;
- time saved otherwise spent in queues;
- accessibility to service;
- 24-hour availability of service;
- time saved through integrated service delivery;
- consistent information.

Benefits to the agency or agencies

- satisfied customers;
- more customers;
- more effective service delivery;
- lower delivery costs through reduction in counter and telephone queries;
- reduced printing costs;
- streamlined procedures;
- accurate, up-to-date easily maintained information.

Benefits to the Government

- \$ savings through reduced agency costs;
- more effective delivery of key government programs;
- improved services to the community.

Your business case should demonstrate how your Internet provision aligns with [connect.nsw](#) and how it complies with your agency program, particularly your service delivery and publication initiatives.

You also need to consider whether the proposed initiative presents any risks to your agency, other agencies involved or stakeholders. You should use the [Risk](#)

[Management Guidelines](#) issued by the Office of Information Technology to conduct a risk analysis and determine how risks will be managed.

3 Planning Your Website

3.1 Management issues in planning

Planning a project involves a different set of issues and requires a different skill set to the management of the daily operations of an agency's IM&T services. A project is normally less predictable, more subject to change and has a longer planning horizon than the delivery of daily IM&T services. The [Project Management Guideline](#) issued by the Office of Information Technology will provide support in planning of your website project.

To be successful, a project must have the following:

Clearly defined business objective

The business objective must be clearly defined in the project's business case and be formally approved by senior management. Expected benefits must be specified and broken down into identifiable and measurable elements.

Partnership approach

The web development project is a partnership between the business units involved and the IM&T staff assigned to the project. Projects should be considered to be business initiatives with an element of IM&T rather than IM&T initiatives that will support the business.

Project sponsor

Ownership and accountability must rest with the Project Sponsor —the owner and 'champion' of the project. The Project Sponsor should be the individual with the greatest vested interest in the outcome of the project.

Support of senior management

Senior management's role will vary according to the scale and complexity of the project. Generally senior management will closely monitor the progress of projects that are fundamental to the operations of the agency or which require significant levels of investment.

Regular Progress Reporting

Progress reports should be available for senior management, and other interested parties, on a regular basis. Normally this reporting occurs at least monthly, but in critical project phases this may be increased to weekly. The

progress reports must provide management with a working understanding of the overall project plan and the progress made against it.

Consistent Progress Reporting

The reporting format should remain consistent throughout the project.

Proven Project Management Methodology

An agency should have a preferred project management methodology that provides detailed practices and procedures for implementing best practice. Using one methodology for all projects should provide consistency in areas such as management approach, documentation standards, quality management, project reporting, project monitoring and evaluation.

3.2 Project Planning Components

Management planning

At the start of the project a Management Plan is determined, defining the scope and structure of the project.

Project management

Project management activities continue throughout the project: work planning, resource management, project control, project monitoring, reporting and communication.

Quality management

A formal Quality Plan should be developed. This sets out an independent quality assurance framework, used to monitor the quality of all project deliverables and to help ensure that the project's expected benefits are realised. For further information, see the [Quality Management Guideline](#) issued by the Office of Information Technology.

Risk Management

A Risk Management Plan should be developed. At the start of the project the Plan should document the project risks and how they will be managed. The Plan should also set out how other risks will be identified and addressed, as they arise throughout the course of the project. For further information, see the [Risk Management Guideline](#) issued by the Office of Information Technology.

Change Management

A Change Management Plan needs to be developed, to manage the organisational change associated with the project. This should be based on effective marketing of the project, and building a partnership between the project team and the user community.

Realising Benefits

A plan to realise the project benefits should have been developed in conjunction with your business case, based on the need to identify benefits early in the project. Benefits planning should help your agency realise benefits as the project progresses, in parallel with acquiring and implementing new technology.

Project completion

The project should have a pre-defined and easily identified end point, where the IM&T moves from its implementation phase to live operations.

3.3 Establishing a Project Team

Developing a website and its associated functionality is a multifaceted project requiring a range of specialist personnel and may involve using consultants. Establishing the right project team is essential to the success of the project. The team's expertise will need to include:

Marketing/Communications

To focus the website development on the needs of the targeted audiences.

Information Architecture

To analyse the findings from the 'defining requirements' phase, and design the organisation, structure, navigation, and search functions of the website.

Graphic Design

To design the 'look and feel' of the website, and the graphic elements and page layouts

Editorial

To establish the language style, proofread and edit content, improve readability of content.

Subject Matter Experts

To write new content and rewrite existing content for the website.

Technical

To establish, develop and maintain the platforms, applications and functions relevant to the website; includes expertise in programming and markup languages.

Project Management

To coordinate and monitor the progress of the website development and facilitate communication between project team members.

Committees and support groups for collaborative projects

The Premier's Department Guideline [Working Together in the NSW Public Sector](#) explains how supporting groups and committees strengthen a collaborative project. Where a project involves collaboration between agencies it is critical to gain the support of key personnel within the agencies. The guideline indicates that the personnel selected should be able to provide support as project partners, champions, impartial broker, decision makers, approvers, customers, stakeholders and influencers.

Editorial Committee

Establishing and maintaining electronic services requires involvement from all key areas of your agency. It is recommended an editorial committee be established to undertake this responsibility.

The editorial committee should include staff from your agency executive, to provide a corporate perspective. A member of the agency executive should chair the committee — preferably your agency Chief Information Officer (CIO).

The committee should also include staff from each key area of your agency — preferably your Business Unit Managers. These officers will have editorial responsibility for the information resources and services provided by their respective areas.

Collectively, the editorial committee will have responsibility for:

- Setting the service objectives of your agency website;
- Ensuring alignment of your agency Internet initiatives with [connect.nsw](#) and [ServiceNSW](#);
- Delivering information resources and services on your agency website, including the priority and progress of their implementation;
- Conducting quality assurance reviews to monitor the quality of information and services offered on your website;
- Identifying any refinement of service objectives, and new initiatives to deliver these objectives;
- Reporting on progress of your agency's electronic service delivery program;
- Notifying the Office of Information Technology of any new, changed or deleted information resources or services, and any significant website development;
- Managing content and determining metadata tags in alignment with agency and whole-of-government policies;
- Managing your agency website, overall.

For smaller agencies, it may be appropriate to have editorial responsibility vested in one officer rather than an editorial board. Agencies may also find it appropriate

to use an editorial board for major website initiatives, and vest editorial responsibility in one officer for on-going updates to their website.

4 Developing your Website

4.1 Website Design

An agency website is one means of the public presentation of that agency and its activities. It also fulfils a role as part of an online, integrated government of New South Wales. As an official point of presence, it is important that your website presents an image that reflects the professional standards of the NSW Public Sector.

The web design process has four main components:

- Information architecture: developing a structure for your information and services;
- Developing the navigation system;
- Developing the 'look and feel' of the site: its visual character;
- Establishing consistent design elements, templates and styles, and documenting these in a Style Guide.

Structuring your Information and Services: Information Architecture

A mistake made by some organisations is to use their corporate structure as the metaphor for structuring their web information and services. Your corporate structure does not necessarily reflect how your customers use or think about your information or services, and it may not be relevant to their purpose or reason for visiting your website.

The key to working out how to structure your information and services is customer focus — envisaging your customer's requirements from their point of view, and structuring information according to their needs and enquiries.

Designing your website information architecture should be informed by your users' information requirements and by the way they use the information or services. Don't forget to consider all your users — different types of users may have different requirements.

Navigation

In the same way that you provide signboards, directories and similar way-finding aids to help people visit your agency, you need to provide easy navigation throughout your website so that your users can easily locate the information or service they require.

You can support accessibility to key areas of your site by:

- Providing information categorised from the perspective of your customers;

- Using menu panels to improve accessibility to information resources and services;
- Providing a site map depicting services at different hierarchical levels;
- Providing devices to allow people to move quickly from the bottom or middle of a long page to the top;
- Providing for direct navigation between key sections of a service area or an electronic document;
- Applying navigation standards consistently throughout your site;
- Providing a well-indexed search facility where possible, allowing your users to find an information resource or service by entering key words or phrases;

Table of Contents, Indexes and Site Maps

These navigation tools provide alternative access to that provided by the basic structure of the website. They should not be used to try and compensate for a poor structure or navigation scheme.

A strongly hierarchical structure lends itself to a table of contents. The design of the table of contents is important:

- Ensure that its structure reinforces the hierarchy of the website;
- Provide linked access to the contents of the site.

For websites without a strong hierarchical structure, an index can be useful. Consider the need to index:

- Web pages;
- Headings within web pages;
- Collections of web pages.

Site maps are strictly speaking a graphical representation of the website. Maps are typically used for navigating physical space rather than intellectual space. A site map is useful where the information on the website lends itself to visualisation.

Impact of New Internet Technology

Consider the impact of new or emerging Internet technologies on users' ability to navigate through your site. These technologies may be used for security, forms, e-commerce, still images, audio, video, or real time interaction.

Scalability

Consider how your website will grow. As the number of pages increases, it becomes more difficult to manage changes. The site should be able to be enlarged using the existing navigation menus with the addition of new sub-menus and linked pages. Using of content navigation side bars on the left hand side of the screen enables the content to expand without having a major impact on screens below the home page.

Templates

Use templates and/or databases to publish your web pages. This is a cost-effective approach to developing and maintaining your site. Templates will give you a consistency in design and navigation that will benefit your users and make your web publishing faster and more efficient. You will get a better result than starting from scratch with each new page or information resource.

Colour Scheme

Choice of colours is at the discretion of individual agencies. Keep in mind that colour is a key element in helping users to interpret information and navigate around the website, so you need to think of colour as part of your information architecture more than as a decorative element.

When selecting colours for your site, consider the following points:

- Use a colour scheme associated with your agency (eg. blue for the Police Service), that incorporates or complements your corporate logo;
- Make sure that the contrast of text against the background is sufficiently high to be legible on screen and on printed copy;
- If your site is text-intensive pick a light colour for the background and use black for text; black text against a white background is the optimal choice for screen readability;
- Avoid the use of textured or tiled backgrounds as they can make your page slow to download; textures and tiles can also reduce the readability of text on the page unless they are very subtle;
- Apply your colour scheme consistently throughout your site;
- To accommodate people who have difficulty distinguishing between certain colours avoid using red and green together and ensure text and background colours vary in tone so the text can be read in grayscale;
- When using non default link colours, ensure links remain visible against the background when link colour specifications are disabled.

Graphics

Strike an appropriate balance between making your site interesting for your users and ensuring that your web pages are not so slow to load that your visitors leave in frustration.

Consider the following general points:

- Liven your site with the use of coloured graphics, menu buttons and text headings. However, limit the use of graphics to minimise the time taken to load your pages. Graphics in place of text should generally be limited to the agency logo and to depict a key service or message.
- Use graphics that are not resource-intensive, eg. use flat or non-graduated colours, and use a minimal number of colours so that your graphics files are as small as possible.

- Where photographs or complex graphics are important to illustrate your presentation, give the user the option of accessing these via links to a picture file of a specified size and type, or to a picture gallery, rather than requiring users to download large graphics as part of the web page.
- Use 'thumbnails' of images in lieu of full size images (of specified size and type) that can be downloaded at request.
- Minimise the use of animation as it can slow the loading of the page. Animation should be limited to highlighting the key focus of your site. Where animation is used, keep the image size small by working with as few frames as possible.
- Avoid using animations that could trigger epileptic fits e.g. spiralling, throbbing or flashing graphics and buttons.
- Reduce the size of image files by using the correct file format.
- When using Flash as an introduction, provide a "skip introduction" option outside the Flash content.
- Provide an html version alternative to Flash websites or elements of Flash (e.g. navigation).

File formats

Generally, photographic images should be in JPEG format, with adequate compression to achieve minimum file sizes without losing quality; while line art images and flat colour images should be in GIF format, similarly compressed.

Interlace large GIF images so that the image is gradually loaded at increasingly higher resolution. This allows the user to view the image initially in 'rough' form without waiting for the full image to be loaded.

With all images:

- Specify the width and height attributes of all images to reduce download time;
- Use the image 'alt' attribute to provide meaningful text alternatives for images when the image function is disabled and for audio-output and Braille devices.

Style Guide

Create a Style Guide for web developers and content authors, for internal use and for any consultants who contribute to your website. This will need to be updated as your website and styles develop to accommodate different types of information. Use cascading style sheets (CSS1) to control text and link font style, size and colour. The style guide should address the topics covered in this section of the guideline.

4.2 Developing Content

Managing content

As a government agency you are the custodian of government information and are required to designate internal custodians to take responsibility for specific information resources. Each information resource or service should have an owner (a person or unit) who will have continuing responsibility for the accuracy and currency of its information, and for testing changes and new offerings before they are implemented. Failing to maintain accurate and current information may have significant consequences, from lost customers to liability risks.

Overall responsibility for managing your website, and for managing content, should rest with your website Editorial Committee Pricing Policy.

There is a proposed Access and Pricing policy currently before Cabinet. The policy aims to ensure that government held information is made widely available to the public so that the greatest possible value can be obtained from its use. It is recommended that agencies align their pricing policy to this whole-of-government policy.

Depositing Content

Informational content published on the web is classified as a publication for the purposes of library deposit. Your agency is required to make arrangements with the [State Library of NSW](#), the [Parliamentary Library](#) and the [National Library of Australia](#) for the provision of publication type material on their website. Please refer to Premier's Memorandum 00-15 "Access to Published Information – Laws, Policy and Guidelines" at <http://www.premiers.nsw.gov.au/>.

Tips to facilitate content management

The following tips will facilitate management of your website content:

- Facilitate navigation through a lengthy document by providing a table of contents with hyperlinks to sections of the document.
- Provide a printable version of lengthy documents, with options to print the whole document or a section of the document.
- Provide the option to download very large documents for local viewing or printing.
- Ensure that your download options (eg portable document format or PDF) allow your documents to retain their formatting integrity, and that no reformatting or use of 3rd party software will be required to read the documents.
- Every publication should be tagged with metadata as described in the Metatags and Metadata section.
- Use publication templates to achieve consistency and facilitate developing and maintaining your electronic documents.
- Use an accessible format (html, text) for all publications and test them for accessibility before publishing. For publications such as Annual Reports that need to be in a PDF format to retain their formatting, provide an alternative accessible method. For more information see [Content Accessibility](#).

Where it is not cost effective to publish a document electronically (eg. a long document that is rarely used), provide an online summary of the document to inform users of its existence. This will enable the document to be found by search engines and it will allow your customers to ascertain whether they wish to pursue further information. Summary information should include:

- Title of document;
- Brief description of content;
- ISBN number (for public documents);
- Internal reference number;
- Publication or creation date.

Release new versions of your publications in all media formats (hardcopy, web, etc) at the same time to avoid the confusing situation where more than one version of a publication is in circulation.

Structuring Content

Following are some general ideas for structuring your information and services:

- Create separate pages for each different type of information resource or service.
- Present related information resources on the same page (e.g. all press releases listed on one page, copies of agency newsletters on another page, etc) so that they can be accessed from the [ServiceNSW website](#).
- Ensure that the title (ie link description) of each information resource or service is meaningful and sufficiently descriptive on its own when accessed using ServiceNSW.
- Provide an introductory overview in the preamble of each information or service page.
- Present the text in a summarised version first, with text links leading to deeper or more detailed levels of information that can be accessed according to the users' interest. This will help your visitors to decide if further inquiry is worthwhile. Remember that download time may be a cost factor for some visitors.

Readability — Writing for the Web

There are some specific requirements for writing for the web. Three main guidelines are:

- Be succinct: write no more than 50% of the text you would have used in a hardcopy publication;
- Write for scan ability;
- Use hypertext links to split up long information into multiple pages;
- Use <h> and <p> tags instead of and
 tags respectively to increase accessibility.

Readability is enhanced by writing text that can be scanned. This involves:

- Highlighted keywords;
- Meaningful subheadings;
- Bulleted lists;
- One idea per paragraph;
- The 'inverted pyramid' style, starting with the conclusion;
- Half the word count (or less) than conventional writing.

Web reference: <http://www.useit.com/alertbox/9703b.html>.

Language

General guidelines

- Present your information so that it is logical and relevant.
- Use plain, uncomplicated sentence and paragraph structures for easy reading.
- Use white space to indicate logical breaks in text and to pace reading online. This can help make a text-intensive page less tiring to read.
- Use punctuation correctly, to establish clear meaning.
- Use 'Title case' (upper case initial letter of each word and lower case for the rest of the word) for headings and subheadings, except for special instances, such as brand names (eg. *connect.nsw*, ServiceNSW) or organisational acronyms (e.g. SOCOG, ICAC).
- Use the correct word and English Australian spelling. Proofread text rather than relying solely on spell-checkers.
- Avoid the use of vulgarisms and other socially offensive language.
- Use non-discriminatory language, taking care not to cause contention or offence to any section of the community.
- Minimise the use of jargon and colloquialisms.

Using Hyperlinks

- Support the use of technical terms by explanations using hyperlinks;
- Support the use of acronyms by hyperlink definitions and appropriate mention of the full title in the main text;
- Provide definitions or explanations of complex concepts and terms using hyperlinks.

4.3 Website Statements

The Definition phase of your website development may have elicited information and service needs outside your legislative or regulatory framework. A filtering process will be required to identify acceptable information and service needs in relation to:

- Liability;
- Copyright;

- Privacy;
- Confidentiality;
- Integrity of government information;
- Content regulation;
- Advertising and sponsorship;
- Objectionable content.

You also need to filter content according to overlap with other government agencies.

Liability, Copyright & Content Regulation

As custodians of government information and users of information provided by other sources, agencies may be liable for damage or loss incurred by users of government information.

The legal responsibilities associated with the provision of government-owned information can best be discharged by implementing key measures such as effective management of the quality and integrity of the information, and appropriate version control. Agencies should review the OIT [Copyright](#) and [Liability](#) guidelines for detailed information in these areas.

Agencies are responsible for any breaches of copyright on their websites therefore they must ensure that they are either owners of the content, or have the permission of the copyright owner to publish that content.

Agencies using framed websites need to be mindful that linking to other websites in such a way that the linked website is viewed within the agency's frameset may constitute a copyright infringement and should be avoided. When creating links to other websites, check the linked website for any permissions or authorisations required.

A national framework for regulating the content of online services has been developed by the Commonwealth Department of Communications, Information Technology and the Arts (DCITA) and the Commonwealth Attorney-General's Department. Its intent is to develop consistent codes of practice to protect Australian citizens, particularly children, from pornographic, offensive and other unsuitable material.

The main features of the regulatory framework are:

- The Australian Broadcasting Authority (ABA) will investigate complaints from the public about offensive material.
- The ABA will take action on material that is defined by the current National Classification Board Guidelines, as material Refused Classification and rated X, and material rated R that is not protected by adult verification procedures.
- The ABA will be given powers to issue notices to ISPs to prevent access to prohibited material, which is subject to complaint, if it is hosted in

Australia. If the material is sourced overseas, ISPs should take reasonable steps to prevent access if technically feasible.

- Indemnities will be provided for service providers to protect them from litigation by customers affected by ABA notices.
- A community advisory board will be established to monitor material, operate a hotline to receive complaints about illegal material and pass this information to the ABA and police authorities.

Agencies must be aware of these legislative developments with regard to their role as content providers, content users, online service providers and users of online service providers.

A generic website statement addressing these issues is available from the Office of Information Technology.

Privacy

Agencies have a significant responsibility under the [NSW Privacy and Personal Information Act 1998](#) when collecting, storing, accessing or disposing of personal information. Agencies should make themselves aware of the 12 Information Protection Principles contained in the Act and ensure these requirements are reflected in agency websites.

Agencies should review the OIT [Privacy and Personal Information Protection Guideline](#) for detailed information in this area.

Confidentiality

Existing legislative measures covering freedom of information establish a framework for disclosing government-owned information to the public. Agencies need to implement specific measures to manage the disclosure of commercial, political or morally sensitive information during its collection, storage, use and disposal. Confidentiality measures include considering its source, intended use and other issues.

Integrity

The government and the community need to have confidence in the ability of agencies to manage the integrity of government information. The integrity of an agency's information is maintained by adopting measures that retain or improve its inherent quality, by ensuring that the information has not undergone unmanaged change from its authenticated state. Integrity measures include adequate security controls and quality assurance measures. Quality assurance measures must ensure that any changes are the result of due process, commensurate with the degree to which information is intended to be authoritative.

Advertising and Sponsorship

Sponsorship in terms of the Independent Commission Against Corruption (ICAC) guidelines is defined as a payment whereby there is a requirement that a benefit be returned to the private sector organisation making the payment. The selling of

advertising space is considered separately. ICAC guidelines apply to all sponsorship arrangements.

You should develop a policy in alignment with those guidelines, noting in particular the nature of the relationship between an advertising/sponsoring organisation and the agency.

Key points to address in this policy are:

- Government agencies should not enter into arrangements that could limit the agency's ability to impartially carry out its functions;
- There should be no conflict between the objectives and mission of the agency and the advertising/sponsoring organisation;
- Government agencies should not enter into arrangements with people and organisations that they may have to inspect or regulate;
- Agreed arrangements should not involve explicit endorsement of the sponsor or the sponsor's products;
- If the arrangements involve the provision of an organisation's products, agencies should evaluate the product objectively against operational criteria to make sure that it meets their need;
- Government agency staff should not ask for or receive any benefits from the arrangements.

4.4 What to include on your Site

As an official point of presence, it is important that your website presents an image that reflects the professional standards of the NSW Public Sector and complies with this government's commitment to electronic service delivery.

Agency overview

This will be useful for members of the NSW community, agency employees, other agencies, and overseas visitors. Include:

- Location information such as head and branch offices, preferably supported by street maps;
- Contact details for head and branch offices (contact person, telephone number, fax number, email address, business address, postal address);
- Links to relevant legislation on the [Austlii](#) site.

Services

Electronic delivery of government services is a keystone of the NSW Government's vision of online, integrated government. Realising this vision will evolve progressively over a period of time. It is envisaged that initially, agencies will deliver their services in varying modes – online, over the counter, telephone, electronic mail, fax, hardcopy or a combination of these modes.

Your agency website should:

- List all services provided by your agency and facilitate access to each service using a menu or index;

- Provide a summary of each service to assist your visitors in determining whether to proceed further;
- For each service;
- Provide details of the service;
- Clarify eligibility for services by specifying application criteria;
- Indicate where the service is only applicable to a specific client group;
- Be aware that visitors to your site include interstate and overseas visitors, and you should pitch your services to include or exclude them as appropriate;
- Provide instructions on how to obtain the service, including forms to be submitted online or that may be downloaded for submission using conventional means of mail or fax;
- Provide information on when the service is available (for telephone and 'over the counter' services);
- Provide information on the location of 'over the counter' services, preferably supported by street maps;
- Provide contact details (contact person, telephone number, fax number, email address, business address, postal address) as appropriate;
- Provide an index of forms that your customers may access for submission online or using conventional means as appropriate;
- Provide an online customer feedback facility for your customers to report service problems.

User Information

The website of every agency should have the following information provided to end-users:

- A Human Readable Privacy Statement;
- A Machine Readable Privacy Preference;
- A Copyright Notice;
- A legal disclaimer.

Organisational banner

The banner acts as a flagship for your site and should be placed at the top of the home page. It should clearly identify your site as part of the NSW Government and be made up of the following:

- State crest and/or the words 'New South Wales Government';
- Agency name;
- Agency logo and/or motto.

Message from the Minister

Your website is an opportunity for your Minister to address the stakeholders of your agency, so include provision for a message from the Minister responsible for your agency, addressed to the community. If it is included:

- Update the message on a regular basis (monthly or more frequently as required);
- Provide a facility for email to be sent to your Minister;
- Make arrangements with your Minister's office to answer the email in accordance with established protocols as per ordinary mail;
- Keep the Minister's office up-to-date with web development and maintenance, what's new etc.

What's new

Highlight what is new on your site (eg. new services, publications, etc)

Coming events

Inform your visitors of any forthcoming events associated with your agency.

Media releases/stop press

Provide online access to any media communication released by your agency, using an index structured so that most recent releases appear first.

Forum/suggestion box

Provide online facilities for your customers to communicate with your agency, remembering that unmediated forums, such as chatrooms, hold some liability risk and that information provided in on-line feedback may be defined as Personal Information under the PPIP Act and is Copyright by the author:

- Invite feedback on what is currently on your website, particularly information and services provided by your agency;
- Conduct surveys on a regular basis to solicit input for the continuous improvement of your website (refer to Quality Assurance for details);
- Enable your visitors to ask questions or seek further information concerning your website and your agency;
- Invite comments on a proposal or a document (eg. Green Paper or draft document);
- Conduct surveys to collect community input on issues related to agency initiatives;
- Make sure that you have the resources to respond promptly and in a professional manner to any email generated by the website.

Feedback

Make sure that all customer queries and complaints are responded to promptly and in a professional manner. Remember that most people expect email communication to be significantly faster than traditional mail.

Publications

A number of documents describe and define your agency and its operating environment.

- Provide an index of these documents. As a minimum, include
 - annual report;
 - policies and guidelines;
 - regulations;
 - procedures;
 - memoranda;
 - circulars;
 - white papers;
 - discussion papers;
 - agency newsletters that report on current activities in your agency.
- Provide online access (ie online browse and/or download options) to these documents;
- Facilitate navigation through a lengthy document by providing a table of contents with hyperlinks to sections of the document;
- Provide a printable version of lengthy documents, with options to print the whole document or a section of the document;
- Provide the option to download very large documents for local viewing or printing.

Links to related websites

Provide a link to ServiceNSW: www.nsw.gov.au

Provide links to related sites, ie. sites with similar and related activities as your agency. Before creating the link notify the owners of these sites of your intention, as a matter of courtesy as well as to obtain an agreement that they will inform you of any changes to site addresses.

Consider categorising links so that you distinguish between government and non-government websites. Providing a link to a non-government website may give users the impression that you endorse their information, views, products or services.

What to Include on All Pages

All web pages should include:

- Name of the agency providing the information or service, clearly visible;
- Title of the information resource or service;
- Link to copyright/usage statement;
- Link to disclaimer;
- Link to privacy statement;
- Date last updated;
- Link to agency home page (the front page).;
- Link to emailing the web coordinator, so people can easily report problems (e.g. inaccurate information, out-of-date information, missing links etc);
- The home page of the website should include a link to [ServiceNSW: http://www.nsw.gov.au/](http://www.nsw.gov.au/).

4.5 Content Accessibility

Accessible content should be developed as a standard feature of web pages, rather than being considered as a specialised feature for people with disabilities. Accessibility features improve access for all people not only those with disabilities. They can increase the effectiveness of the page for a variety of situations (slow modem speeds, graphics turned off, readability, etc). Development of alternative text based pages should be considered a last resort.

The Disability Discrimination Act 1992

The Disability Discrimination Act 1992 requires all government bodies to provide equitable access to people with disabilities. NSW government websites (and others, including commercial sites) risk exposure under the Act to complaints from anyone claiming disadvantage by lack of access. The Act requires equal access for disabled people, where it can reasonably be provided. For more information about the Act and your responsibilities under the Act, see [Disability Rights](#) and [World Wide Web Access: Disability Discrimination Act Advisory Notes](#).

Developing for accessible content

The [W3C Web Content Accessibility Guidelines at http://www.w3.org/TR/WAI-WEBCONTENT/](http://www.w3.org/TR/WAI-WEBCONTENT/) are to be used for developing accessible content. The W3C Web Accessibility Initiative (WAI) identifies checkpoints for web content developers at three priority levels. Each priority level assigned by WAI is based on the checkpoint's impact on accessibility. In this Guideline Priority 1 and 2 Checkpoints should be applied as a minimum. Priority 3 Checkpoints are considered desirable.

Priority 1

A web content developer **must** satisfy this checkpoint. Otherwise, one or more groups will find it impossible to access information in the document. Satisfying this checkpoint is a basic requirement for some groups to be able to use web documents.

Priority 2

A web content developer **should** satisfy this checkpoint. Otherwise, one or more groups will find it difficult to access information in the document. Satisfying this checkpoint will remove significant barriers to accessing web documents.

Priority 3

A web content developer **may** address this checkpoint. Otherwise, one or more groups will find it somewhat difficult to access information in the document. Satisfying this checkpoint will improve access to web documents.

Testing for Accessibility for People with Disabilities

- Use a text based browser to test your website for its accessibility to people using screen readers, and fine tune your site to maximise accessibility for people with a sight disability. Lynx is one example of a text-based browser that renders web pages in a similar fashion to voice-based browsers and browsers with images turned off. Lynx is available free at <http://www.fdisk.com/doslynx/lynxport.htm>;
- Test your web pages for their accessibility to people with disabilities as well as their compatibility with different web browsers or HTML specifications. Bobby is a free service created by the Centre for Applied Special Technology (CAST), a not-for-profit organisation whose mission is to expand opportunities for all people — especially those with disabilities — through the innovative uses of computer technology. In July 2002, Watchfire acquired Bobby from CAST and has assumed responsibility for the continuing development, marketing, and distribution of the technology. Bobby is available at <http://bobby.watchfire.com/bobby/html/en/index.jsp>.
- Test each PDF document to ensure it converts effectively to accessible formats (text or HTML) http://www.adobe.com/products/acrobat/access_onlinetools.html

Tips on upgrading your website's content for accessibility

The following tips will facilitate the upgrading of your website's content for accessibility:

- Conduct an audit of your website using [Checklist of Checkpoints for Web Content Accessibility Guidelines 1.0](#) and testing tools (see Testing for Accessibility for People with Disabilities).
- Assess the seriousness of any breaches and prioritise the upgrading accordingly. A strategy should be implemented to rectify all priority 1 issues including but not limited to:
 - All documents not in an accessible format (PDF, Postscript, Word etc.).
 - All content not in an accessible format (Videos, Graphics, Flash etc.).
- Fix the accessibility breaches. Some suggested tips include:
 - Use [W3C Web Content Accessibility Guidelines](#).
 - Convert inaccessible documents (PDF, Postscript, Word etc.) to HTML and validate each page for accessibility and usability after the conversion process.
 - Provide text descriptions of any audio files or pictures.

Documents, audio files or pictures that cannot be converted due to integrity (eg Annual Reports) or time pressures (for the short term) should at least provide:

- Brief description of the file;
- File type (eg PDF);
- File size (eg MB);
- Number of pages;
- Time to download on a 56K modem;

- Information on how and where to access a program to read the file where appropriate (eg PDF - http://www.adobe.com/products/acrobat/access_onlinetools.html);
- Contact name, email address and phone number for the user to obtain the file in an alternate format on request.

Other useful links:

- [Adobe and accessibility](#);
- [Apple – People with special needs](#);
- [Australian National Audit Office Better Practice Guide: Internet Delivery Decisions](#);
- [Achieving Web Site Accessibility](#);
- [Dive Into Accessibility](#);
- [Guidelines for Commonwealth Information Published in Electronic Formats](#);
- [IBM - Accessibility Center](#);
- [Linux Accessibility Resource Site](#);
- [Microsoft Accessibility](#);
- [Sun Microsystems Accessibility Program](#);
- [WebAIM](#).

Accessibility for People from Non-English Speaking Background

In support of the government's Ethnic Affairs Priorities Statement (EAPS) Program, maximise accessibility to key information resources and services for your agency customers who are people from non-English speaking backgrounds.

Unicode

Consider the use of Unicode:

- Unicode Standard (ISO standard 10646) is a single character set that includes all the characters used by the world's major languages, including double-byte character sets.
- Both Windows 95 and Windows NT support Unicode and these operating systems supply the fonts required as well.
- Unicode is endorsed by W3C as the standard for digital transfer via the Internet.
- Both Netscape and IE are Unicode compliant. Linked with the fonts in your operating system it is possible to view the non-English web page directly from your browser.

Where you are unable to implement unicode, consider the provision of alternative web pages in non-English languages. The choice of languages and the web pages that apply will be at the discretion of your agency, based on the importance of the information resource or service, and the cultural diversity of your client base.

Highlight web pages that have non-English versions. Where hardcopy information is available in non-English versions and only the English version is online, indicate the availability of non-English copies and where these may be obtained.

If the information on a page is substantially in a language other than English, consider including an AGLS metadata tag specifying the language used eg a document in French might include the following meta tag in the html code `<META NAME="DC.Language" SCHEME="RFC1766" CONTENT="fr">`. A list of language codes can be found in the iso639-1 column table at <http://lcweb.loc.gov/standards/iso639-2/englangn.html>

4.6 Metatags and Metadata

Metatags and metadata provide the information needed for search engines to locate websites and web pages that match search criteria. They provide information about the information in websites and web pages, and thereby help people to find an information resource.

HTML tags known as metatags provide the capability of describing title, author, keywords, and a description. Metadata is an external set of HTML-compliant fields describing a far wider set of information about a web-based resource.

Metatags

Metatags enhance the accessibility of your information resources and services by increasing the probability that they will be found by search engines:

- Provide useful, meaningful text in the <TITLE> tag. This text is how search engines will list your information resource or service.
- Record your agency name in the <AUTHOR> tag. This will help with locating information and services offered by your agency.
- Ensure that your pages have sufficient descriptive text to be found by search engines.
- Use the 'description' and 'keywords' metatags that currently enjoy widespread support by search engines, for pages that lack sufficient descriptive text.

The text in the 'description' tag provides additional information in the search results, and the message it conveys will determine whether the user will choose to access your information resource or service.

The 'keywords' tag tells search engines under what keywords you would like your information resource or service to be found. It helps in placing your resource or service higher in the search engine results list.

Apply these rules for all information resources and services, including those that are not fully online.

New South Wales has agreed to adopt the AGLS metadata standard – see [Australian Government Locator Service \(AGLS\)](#) for a copy of the manual.

Metadata

There are a number of metadata standards, including:

- Dublin Core;
- Australian Government Locator Service (AGLS);
- Australian and New Zealand Land Information Council (ANZLIC);
- Instructional Management Systems (IMS).

The metadata standard recommended by the NSW Office of Information Technology is the Australian Government Locator Service (AGLS). The AGLS metadata standard is a set of 19 descriptive elements which government departments and agencies can use to improve the visibility and accessibility of their services and information over the Internet.

Some agencies are developing best practice codes for metadata implementation related to specific areas. For example, the NSW Law Foundation has developed *Best Practice Guidelines for Legal Websites* containing recommendations to ensure maximum accessibility and quality for legal websites (<http://www.lawfoundation.net.au>).

Current AGLS version details may be obtained from the AGLS website at http://www.naa.gov.au/recordkeeping/gov_online/agls/metadata_element_set.html

Metadata fields of particular importance relate to:

- Title;
- Agency;
- Author or creator (organisations or persons primarily responsible for the intellectual content of the resource);
- ISBN number (for public documents);
- Internal reference number;
- Publication or creation date;
- Revision date.

4.7 Technical Considerations

The technical standards you implement for your website should be based on information you gather about your users' software, hardware and telecommunications facilities.

While some customer groups in major metropolitan regions can be expected to have latest version hardware and software supported by good bandwidth and speed, a significant range of non-metropolitan areas have line quality issues, low speed and STD call access. When you defined your users' requirements you should have gathered information about accessibility issues that need to be provided for in your website design and development, and user expertise levels that need to be considered for using of non-standard plug-ins, etc.

Sites such as StatMarket (www.statmarket.com/) can provide information on usage of browser versions, plug-ins, screen colours and resolutions etc.

Client Side Issues

Browsers

Your websites should be developed for current browsers and browsers that are one generation previous to what is currently available. Netscape and Microsoft, even in their latest generation browsers, implement many standards differently. Attempt to design websites using standards supported by both browsers.

Web references

To ensure web pages are viewable by different makes and versions of browsers:

<http://www.anybrowser.com/>

To check your website for browser compatibility, HTML validity and more:

<http://www.siteinspector.com/>

<http://www.netmechanic.com/>

<http://www.websitegarage.com/>

Client Hardware

Consider users with older equipment and design your pages accordingly:

- Design your web pages to fit within the common default window size of 640 x 480 pixels;
- Many users still use 28.8 K modems or slower ones.

Client Software

Plug-ins

- Plug-ins are small applications that work with web browsers that provide additional graphics or audio services. Examples of plug-ins are Shockwave, Real Audio, etc.
- Avoid forcing users to download plug-ins. If they are unavoidable, offer an alternative. If your site is image intensive offer users a text alternative or design your site so that it is possible to navigate with images turned off. Ensure 'alt' tags are present for all images.
- Be conscious of probity issues and do not force users to pay for plug-ins. Attempt to use only freely available plug-ins.

Fonts

When selecting fonts for your site, consider the following points:

- Use true type fonts as they scale and present well on screen and hardcopy.
- Select font types (such as Times Roman or Arial) and font sizes that make it easy to read the text on your pages; Keep in mind that the browser at the user end will determine how the text appears on screen.
- Limit the number of fonts to one or two types.
- Apply font standards consistently throughout your site; have clear heading levels and use them consistently.
- Do not use very small font sizes to fit more text on the screen.

Server Side Issues

Server Software and Hardware

- Server requirements can be solution dependant.
- It is important that whatever system is chosen it must be scalable, ie. make it possible for your site to grow.
- Consider free solutions.
- For increased stability and performance you might consider 'application server splitting'. For example, the body of your website may be served from one server while multimedia applications (video, audio, etc) can be served from another.

File sizes

Large images and large web pages are a significant drain on bandwidth. Be aware that users will often only wait 8 seconds for content before going elsewhere. Keep the size of your home page small. For example, the Yahoo home page is only 16 kb: www.yahoo.com.

Security

Security controls should be implemented appropriately in accordance with the risks to and Guidelines published by the Office of Information Technology. It is strongly recommend that there is a documented website security plan covering all through an agency website. To plan and implement security for your website please refer to the [Security of Electronic Information Memorandum](#) and aspect of security particularly technical and procedural.

Privacy

Automatic privacy notification should be implemented to current best practice standards. The Platform for Privacy Preferences or P3P is an emerging technical standard developed by the World Wide Web Consortium (W3C). At its most basic, P3P delivers a standardised set of automated multiple choice questions and answers that allow P3P-enabled browsers to match an end-users privacy preference with those generated by any P3P-enabled website. Agencies should make themselves aware of the P3P project by visiting the W3C [website](#).

5 Implementing Your Website

5.1 Hosting your Website

If you don't have the technical resources to host your website in-house, it may be cheaper and more efficient to outsource your hosting needs with an internet service provider (ISP). Benefits include the fact that the equipment will remain current and you will receive a high level of technical support. However, an ISP may have restrictions on the type of dynamic applications, forms, etc that you may use on your website.

A related option is co-locating. Basically you own the server hardware but it is hosted by an ISP. In this way you can also receive a high level of technical support and infrastructure.

ISPs may charge to upload data to the server. A service level agreement can be used to specify services and charges.

Reference

ITS 2305 – Provision of Internet Services and Products.

Service Level Agreement

Institute a service level agreement with your service provider for hosting your website. This will ensure you can deliver information and services to your customers in a satisfactory and reliable manner. This agreement should be negotiated with your service provider and documented in writing, regardless of whether your website is hosted internally or by an external Internet service provider.

Ensure the agreement covers all aspects of your requirements. Some requirements are listed here for your consideration:

- Agreement on scope of responsibility (what the service provider is responsible for and not responsible for).
- Specified duration of the hosting contract (eg. 2 years), with continuation of contract depending on satisfactory service, determined by annual review. Check the legislation governing the maximum duration of contracts for your agency. For example, contracts for periods greater than five years may require Ministerial approval.
- Backup of your site and frequency of backups.
- Agreed procedures for notification of problems, including contact details and guaranteed minimum times for responding and rectification.
- Prior notification of system unavailability (i.e. scheduled down-time), with an appropriate message displayed to inform users attempting to visit your website.

- Agreed times when the service provider can undertake maintenance work. This is to ensure that system maintenance is not scheduled during peak business periods when you should maximise system availability.
- Guaranteed smooth system operation and system availability.
- Guaranteed response times for specified traffic volume.
- Monitoring and provision of traffic statistics on a monthly basis, including advice about action required to accommodate increased traffic.
- Monitoring server capacity and load, eg. available disk space, server load and traffic demands.
- Installing new and upgrading existing software.
- Performance measures.

Naming your Website

The name of your website should uniquely identify your agency. Refer to the sections on domain names of the NSW Office of Information [Use of the Internet for Electronic Messaging Guideline](#) for guidance in selecting a name for your agency website.

To ensure your website is easily portable between Internet service providers your agency should own and control your website domain names, addresses and web pages.

Your Internet service provider can register your domain name on your behalf. Alternatively, domain names can be registered at the website of [AUNIC Registration Services](#). The form provided at this address is specifically for 'gov.au' domain names. Ensure that you have the IP (Internet Protocol) address of your website as you will need this to complete the form. Your IP address is the physical address of your website and this information is available from your Internet Service Provider.

5.2 Testing

When the agency is satisfied that design parameters for the website have been met, a series of site tests should be undertaken. Testing is required to confirm that the website is:

- **Accurate and operates as the agency intended.** A site full of errors lacks professionalism and can damage an agency's credibility.
- **Meeting customer service expectations.** A representative sample of the targeted user groups should be invited to test run the site. Responses to the site should be gathered and any suggestions or required changes should be examined and implemented where appropriate.
- **Delivering information in a device independent way.** The site should be viewed using different browser software, hardware and varying modem speeds to determine the usability and layout of designs. Any deficiencies should be identified and corrected as required.

To ensure comprehensive testing, agencies should develop an appropriate checklist covering a range of areas such as:

- Does the site look and operate as the agency intended?
- Does the site meet the expectations of sampled user groups?
- Has the content been checked and proofread?
- Has the site been tested using different browsers?
- Has site been tested with graphics off?
- Has the site been tested with different modem speeds?
- Is the navigation effective? Can users find what they need? Was it where they expected to find it?
- Have all the links been checked?
- Are external links active and appropriate?
- Has the site been checked by a 'site doctor'? (Some free web services are available.)
- Are appropriate measures in place to minimise risks?

Managers with appropriate responsibility also should 'sign off' on significant stages before general access is made available.

5.3 Registering your Website

Registering with Search Engines

Register the site with major search engines such as Yahoo, Google and Alta Vista. Automated services such as 'Submit It' and 'Web Taxi' can be helpful in registering URLs with some search engines.

Once the site has been listed with a major search engine, further visitors can be attracted by listing the site within topical or popular directories of the search engine (e.g. 'What's New').

Registering with ServiceNSW

You are required to register your site with the Office of Information Technology so it can be included on [ServiceNSW](#) (the NSW Government Home Page). Your notification must contain:

- Name of agency;
- Name and title of agency contact person;
- Contact details;
- Office location;
- Email address;
- Telephone number;
- Fax number.

You can notify the Office of Information Technology by email: servicensw@ditm.nsw.gov.au or by ordinary mail to:

Executive Director
Office of Information Technology
Level 3
1 Prince Albert Rd.
Queens Square
Sydney NSW 2000

ServiceNSW Maintenance Facility

The [ServiceNSW](#) Maintenance facility has been developed to support the management of [ServiceNSW](#) across the whole NSW Public Sector.

You are required to use this facility to notify the Office of Information Technology of the links established on your website. You are also required to submit to the Office of Information Technology any proposed, new, modified or archived links using the maintenance facility. This facility is available at <http://www.nsw.gov.au/admin/login.asp>

Arrangements will be made to give your agency access to the [ServiceNSW](#) Link Administration facility when the Office of Information Technology receives your website registration.

5.4 Marketing your Website

Marketing Plan

An important aspect of site planning and development, which is commonly overlooked, is the task of promoting the site. You need to develop a Marketing Plan. There is little point in committing ongoing time and resources to a website if it remains hidden and unused by your customers.

Market features of the Web

Two significant market features characterise the web:

- The web is a diverse set of niche markets, not a conglomerate of 20 million people;
- The web operates on the 'gift economy' — in order to give something (eg. patronage, customer feedback) users expect to get something (useful information, newsletters, free samples etc.).

Advertising and Promoting your Site

Promotion and advertising opportunities should be considered as part of the Marketing Plan, including:

- Press (advertisements and articles);
- Direct mailing (letters, fliers, brochures, newsletters);
- TV and radio exposure;
- Public meetings, seminars;

- Business cards, letterheads and other stationery;
- Launch it at a function.

The agency's website and email address should feature as a part of your standard contact details. In addition, external email from a government agency can include a 'signature' which indicates the URL of your website (eg. 'Visit our website at <http://...>')

Internet Avenues for Promoting your Site

A number of different opportunities exist on the Internet for promoting an agency's site:

News groups

News groups are discussion forums based on specific subjects that can be easily accessed and used. Apart from being a valuable aid for locating information, news groups provide a good opportunity to promote websites and services. For example, press releases announcing the agency's website can be easily posted to a number of relevant news groups.

There are various news groups for announcements ranging from general interest to specific regions, industries, subjects or even products. Before using news groups, agencies should be familiar with the rules for use and ensure that the nature of the news group is relevant for promoting the website. As a general rule, posts on news groups concerning new websites should be brief but informative and provide the URL for further reference.

Mailing Lists

Internet group mailing lists are similar to news groups except the messages are emailed direct to subscribers as opposed to the subscriber voluntarily reading the message. This can be an effective marketing strategy although added care needs to be taken to ensure that the user group is appropriate to the agency's needs. See the LISZT site which has over 70,000 mailing lists: <http://www.liszt.com/about.html>

Email

Building up an email list of customers to disseminate regular information and updates (eg. newsletters) is an ideal way to maintain patronage.

Links

New customers often reach a website by following a link from another site. To maximise the benefits from linking, agencies should:

- Ensure your website is listed with and links back to the [ServiceNSW](#) site;
- Link to the agency's Minister;

- Consider 'mutual linking' with other government agencies with relevant websites, as well as counterparts in other governments;
- Examine the appropriateness, benefits and possible disadvantages of links from a range of other private sector websites.

Your agency should develop appropriate procedures for authorising links to private sector sites. Regular checks should be made on links outside the site to ensure the site remains appropriate.

6 Maintaining Your Website

6.1 Monitoring your Website

Monitoring your website and the Internet is a key aspect of ongoing website management. A major difference that distinguishes successful websites from others is the degree to which they are monitored and modified to meet changing customer needs.

Customer feedback

Customer feedback should be seen as a primary indicator of a website's success or failure. The extent to which customers find information at the website relevant, useful, timely and of good quality is directly relevant to the site's worth.

While knowledge of website visitors is rapidly improving, it is not easy to ascertain who is visiting the website. Many visitors wish to remain anonymous and not reveal how they intend to use the information they find. Moreover, feedback forms are often ignored by many web users as being time consuming and hard work.

It is therefore important to use any information that is tendered by users for maximum benefit. Even limited customer feedback provides valuable insights into the perceived value of the site as well as possible problems such as:

- Access difficulties (eg. some browsers cannot access the site);
- Design problems (eg. reading is difficult because background image or colour competes with text);
- Navigation and linking difficulties (eg. 'dead' links);
- Excessive download times.

While most of these areas should be allowed for in the planning, development and testing stages, users continue to be a reliable source for helping to identify new and unforeseen problems.

Replies to all customer feedback should be in accordance with the agency's customer charter, and should use the customers preferred mode of communication (email, telephone etc.).

Analysing server log files

Although time consuming, the job of monitoring and analysing server log files can be rewarding. Following the 'trails' of users can:

- Indicate which documents are being accessed most. It is important to realise that access does not necessarily indicate readership. However, this is helpful in identifying customer needs and useful when prioritising documents for further enhancement.
- Provide clues about what a user was looking for and why they did or didn't find it. For example, what can be deduced from visitors who regularly 'double back' in their search for information? Do visitors interpret the content of your links differently to you?

Usage Statistics

Statistics on site access and the usage of information and services offered on your site are essential for making informed decisions on the management of your website as well as the achievement of your service objectives.

Be aware that the number of hits can be a misleading basis for usage statistics as a hit is recorded for each file that is copied from your site to a user screen. For example, a page that is made up of a block of text and two graphics will record as 3 hits; the appropriate approach would be to record one visit for an information resource or service each time it is accessed.

Programming effort will be required to collect meaningful statistics; however, these statistics will be useful in determining:

- Which information resource or service that is accessed the most;
- Which information resource or service that is accessed the least;
- Average length of visit for an information resource or service;
- Activity trends over a period of time (6 months, a year, etc);
- Peak periods;
- Percentages of visits from NSW, interstate, overseas, external organisations, etc.

The usage statistics will provide a basis for analysis and appropriate action for continuous improvement.

6.2 Maintaining Content

Maintaining your website is an essential activity, beyond the initial development of your site. Appropriate resources should be allocated to ensure that your information is always up-to-date and accurate.

Update scheduling

Copies of previous versions of the website should be kept for reference and record keeping purposes and to assist with any

customer enquiries that may relate to former web pages. A history of changes to the site should include information such as:

- Specific changes made and reasons why;
- Persons signing off and date;
- Previous and new version number.

Checking Links

It is essential to check for broken hyperlinks, both internal and external. There are many links checkers (spiders) available on the web. Agencies need to implement a routine for checking links, and respond to feedback from users regarding broken hyperlinks.

6.3 Electronic Record-keeping

The *State Records Act 1998* places an obligation on all NSW Government agencies to 'make and keep full and accurate records' of their business. (s. 12(1)). This obligation applies as much to business conducted using a web site as it does to any other business. Delivering information and services online means conducting business transactions with clients online. These transactions must be captured and maintained as records for varying periods of time to support ongoing service, to protect the interests of your clients, the Government and your own organisation, and to be able to meet a range of other business and accountability requirements and community expectations. It is crucial that where there is a requirement for evidence, that evidence is created and captured into a reliable recordkeeping system. State Records has drafted the *Standard on Recordkeeping in the Electronic Business Environment* in order to provide a clear statement of your responsibilities in relation to recordkeeping to support the conduct of electronic business. The standard emphasises the importance of identifying your requirements for evidence of business conducted online and ensuring that those requirements are met in the implementation of the relevant systems - either within the systems themselves, or through interfaces with records management applications. The standard is currently available as a consultation draft from State Records' web site along with a range of other tools and guidance to assist you to implement effective electronic record-keeping.

APPENDIX A - Glossary

ATM — Asynchronous Transfer Mode — a network technology based on transferring data in cells or packets of a fixed size. The cell used with ATM is relatively small compared to units used with older technologies. The small, constant cell size allows ATM equipment to transmit video, audio, and computer data over the same network, and assure that no single type of data hogs the line.

Web reference

ATM Tutorial:

http://www.npac.syr.edu/users/mahesh/homepage/atm_tutorial/

CGI — Common Gateway Interface — a specification for transferring information between a web server and a CGI program. A CGI program is any program designed to accept and return data that conforms to the CGI specification. The program could be written in any programming language, including C, Perl, Java, or Visual Basic. CGI programs are the most common way for web servers to interact dynamically with users. Many HTML pages that contain forms, for example, use a CGI program to process the form's data once it's submitted.

CSS — Cascading Style Sheets — a feature being added to HTML that gives website developers and users more control over how pages are displayed. With CSS, designers and users can create style sheets that define how different elements, such as headers and links, appear. These style sheets can then be applied to any web page.

Cookies — a message given to a web browser by a web server. The browser stores the message in a text file called cookie.txt. The message is then sent back to the server each time the browser requests a page from the server.

The main purpose of cookies is to identify users and possibly prepare customised web pages for them. When you enter a website using cookies, you may be asked to fill out a form providing information such as your name and interests. This information is packaged into a cookie and sent to your web browser, which stores it for later use. The next time you go to the same website, your browser will send the cookie to the web server. The server can use this information to present you with custom web pages. So, for example, instead of seeing just a generic welcome page you might see a welcome page with your name on it.

DHTML — the W3C may not have an official definition for it, but dynamic HTML combines HTML, style sheets, and scripts (Javascript, VBscript, Jscript) to make web pages more interactive.

Encryption — The translation of data into a secret code. Encryption is the most effective way to achieve data security. To read an encrypted file, you must have access to a secret key or password that enables you to decrypt it. Unencrypted data is called plain text; encrypted data is referred to as cipher text. There are two main types of encryption: asymmetric encryption (also called public-key encryption) and symmetric encryption. Symmetric encryption uses the same key to encrypt and decrypt the

message. Asymmetric encryption uses one key to encrypt a message and another to decrypt the message.

Web reference

Information Security Standards:

<http://www2.echo.lu/oii/en/secure.html>

Firewall — a system designed to prevent unauthorised access to or from a private network. Firewalls can be implemented in both hardware and software, or a combination of both. Firewalls are frequently used to prevent unauthorised Internet users from accessing private networks connected to the Internet, especially intranets. All messages entering or leaving the intranet pass through the firewall, which examines each message and blocks those that do not meet the specified security criteria.

Frame relay — A packet-switching protocol for connecting devices on a Wide Area Network (WAN)

Web reference

Frame Relay Tutorials:

<http://www.alliancedatacom.com/frame-relay-tutorials.htm>

HTML — Hypertext Markup Language — this is the lingua franca for publishing hypertext on the web. It is a non-proprietary format based upon SGML, and can be created and processed by a wide range of tools, from simple plain text editors — you type it in from scratch — to sophisticated WYSIWYG authoring tools.

Instant messaging — a type of communications service that enables an individual to create a private ‘chat room’ with another individual. Typically, the instant messaging system alerts an individual whenever somebody on his or her private list is online. A chat session can then be initiated with that particular individual. There are several competing instant messaging systems. Currently there is no standard, with the ability to use instant messaging dependent on individuals using the same instant messaging system.

Web reference

<http://netconference.miningco.com/>

ISDN —Integrated Services Digital Network — an international communications standard for sending voice, video, and data over digital telephone lines or normal telephone wires. ISDN supports data transfer rates of 64 kB/s (64,000 bits per second).

Web reference

ISDN and Data Networking: <http://www.3com.com/nsc/500606.html>

IP telephony see Voice over IP

Java — Java is an object-oriented language similar to C++, but simplified to eliminate language features that cause common programming errors. Java source code files (files with a .java extension) are compiled into a format called bytecode (files with a .class extension), which can then be executed by a Java interpreter. Compiled Java code can run on most computers because Java interpreters and runtime environments, known as

Java Virtual Machines (VMs), exist for most operating systems, including UNIX, the Macintosh OS, and Windows. Bytecode can also be converted directly into machine language instructions by a just-in-time compiler (JIT). Java is a general purpose programming language with a number of features that make the language well suited for use on the web. Small Java applications are called Java applets and can be downloaded from a web server and run on your computer by a Java-compatible web browser, such as Netscape Navigator or Microsoft Internet Explorer.

Web reference

Developer.com: www.developer.com

Javascript — a scripting language developed by Netscape to enable web authors to design interactive sites. Although it shares many of the features and structures of the full Java language, it was developed independently. Javascript can interact with HTML source code, enabling web authors to spice up their sites with dynamic content. JavaScript is endorsed by a number of software companies and is an open language that anyone can use without purchasing a license. It is supported by recent browsers from Netscape and Microsoft, though Internet Explorer supports only a subset, which Microsoft calls Jscript.

Public key encryption — a cryptographic system that uses two keys; a public key known to everyone and a private or secret key known only to the recipient of the message. An important element to the public key system is that the public and private keys are related in such a way that only the public key can be used to encrypt messages and only the corresponding private key can be used to decrypt them. Moreover, it is virtually impossible to deduce the private key if you know the public key. Public-key systems are extremely secure and relatively simple to use. The only difficulty with public-key systems is that a recipient's public key must be known in order to encrypt a message. A global registry of public keys is needed, which is one of the promises of the new LDAP technology.

Public key cryptography was invented in 1976 by Whitfield Diffie and Martin Hellman. For this reason, it is sometime called Diffie-Hellman encryption. It is also called asymmetric encryption because it uses two keys instead of one key (symmetric encryption).

SSI — Server Side Include — a type of HTML comment that directs the web server to dynamically generate data for the web page whenever it is requested. There is no official standard for SSIs, so every web server is free to support different SSIs in different manners. However, many SSI commands, such as `#include` and `#exec`, have become de facto standards. Web pages that contain SSIs often end with a `.shtml` extension, though this is not a requirement. The filename extension enables the web server to differentiate those pages that need to be processed before they are sent to the browser.

SLA — Service Level Agreement — a contract between a provider of WAN services and a buyer of those services. SLAs differs from ordinary, generic service agreements in that they obligate service providers to maintain a certain grade or 'level' of service that is contractually guaranteed. The overall level of service is defined by a set of measurable parameters, each having thresholds that are negotiated by the service provider and customer. When these thresholds are not met there is usually a provision

for some degree of compensation. In some cases, multiple, tiered thresholds with corresponding degrees of compensation are negotiated between service provider and customer.

These are examples of the most common parameters found in SLAs (terminology used to describe these parameters may be different depending on the service provider):

- Committed Information Rate (CIR);
- Minimum Excess Burst Capacity, Average Round Trip;
- Latency;
- Maximum Round Trip Latency;
- Percentage of Successfully Delivered Frames;
- Total Downtime;
- Minimum Time to Full Restoration;
- Minimum Time to Backup Restoration.

Voice Over IP / IP Telephony — a category of hardware and software that enables people to use the Internet as the transmission medium for telephone calls. For users who have free, or fixed-price Internet access, Internet telephony software essentially provides free telephone calls anywhere in the world. To date, however, Internet telephony does not offer the same quality of telephone service as direct telephone connections.

Web reference

<http://www.microlegend.com/what-it.htm>

VPN — Virtual Private Network — a network that is constructed by using public wires to connect nodes. These systems use encryption and other security mechanisms to ensure that only authorised users can access the network and that the data cannot be intercepted.

Web reference

A virtual private affair: <http://www.byte.com/art/9707/sec6/art3.htm>

XML — eXtensible Markup Language — a new specification being developed by the W3C. XML is a pared-down version of SGML, designed especially for web documents. It enables designers to create their own customised tags to provide functionality not available with HTML. For example, XML supports links that point to multiple documents, as opposed to HTML links, which can reference just one destination each.