QUALITY PRINCIPLES HANDBOOK

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Forward

Since 2002, the Minerva project has supported the European ministries of culture, working together as the National Representatives Group (NRG) in building an information society for all European citizens that reflects the wealth of European cultural creation and heritage.

With the support of the NRG and the Belgian Presidency, in the Council of the European Union resolution "culture and the knowledge society", European ministers or representatives of culture of the European Union have stated that *"Noting that culture is instrumental in promoting mutual respect for and understanding of different ideas and identities, and that such mutual understanding can be developed further through improved access to information in the framework of digital projects; [...][they] encourage "quality initiatives" in cultural Websites"*.

A joint European initiative to improve the quality of online cultural content was begun with the publication of the "Brussels quality framework" document in 2002. This framework
- suggests the integration of quality in the specification and support of national digital cultural projects
- promotes the production of practical documents for cultural institutions and
- encourages the application of ten 'Quality Principles' for cultural websites.

This work has been recognised in the 'Charter of Parma' document, presented in 2003 to the Committee for Cultural Affairs of the Council of Ministers of the European Union.

Because the information society is based upon knowledge, cultural Websites have a great deal to offer all citizens. The availability of high-quality Websites encourages European citizens to discover, to explore and to benefit from online material representing the unique diversity of European culture. Such websites will enable maximum value to be derived from Europe's cultural treasures, by the citizens of Europe and beyond.

In addition to the direction provided by the Brussels Quality Framework, the present document has also benefited from grassroots experiences and from the contributions of small and larger cultural institutions in Europe. It is designed for all cultural institutions which are building or maintaining a Website which presents their assets and/or initiatives on the Internet.

Cultural institutions in charge of preserving and exploiting heritage, such as those defined in the Minerva handbook "Improving quality for European citizens", play an important role on behalf of the public. It is important that the quality of such online offerings be o f the highest standard, in order to deliver the best possible service to European citizens.

The Minerva project is working to support cultural institutions all over Europe, because they all hold a share of our common heritage. The Minerva quality principles have been defined and published as a major way to popularise quality for cultural Websites.

This guide is released as the National Representatives Group welcomes new members from Eastern Europe, nine new languages and wonderful cultural treasures which enrich the European information society. This further emphasises the importance of the quality work in supporting and contributing to a diverse and inclusive Information society for all European citizens.

Henry INGBERG
General Secretary of the Ministry of
the French Community of Belgium
(Co-ordinating Body of the Minerva Quality
Working Group)

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Credits

Quality Principles Handbook
Edited by
Minerva Working Group 5
Identification of user needs, contents and quality criteria for Cultural Web Applications

Activity Promoter

Henry INGBERG, General Secretary of the Ministry of the French Community, BELGIUM

Co-ordinator

Isabelle DUJACQUIER, Ministry of the French Community, BELGIUM

Texts by a European Editorial Committee

Eelco BRUINSMA, expert of Ministry of Education, Culture, Science, THE NETHERLANDS

Ciaran CLISSMAN, expert of the Presidency of EU, IRELAND

David DAWSON, The Council for Museums, Archives and Libraries, UNITED KINGDOM

Isabelle DUJACQUIER, Ministry of the French Community, BELGIUM

Pierluigi FELICIATI, Ministero per i Beni e le Attività Culturali, ITALY

Fedora FILIPPI, Ministero per i Beni e le Attività Culturali, ITALY

Muriel FOULONNEAU, University of Illinois at Urbana-Champaign, U.S.A.

Antonella FRESA, Minerva Project, ITALY

Monika HAGEDORN-SAUPE, S.M.B. Institut für Museumskunde - Staatliche Museen zu Berlin –Stiftung Preussischer Kulturbesitz, GERMANY

Cary KARP, Museum Network Information Center Europe, SWEDEN

Annette KELLY, The Library Council, IRELAND

Brian KELLY, UK Web focus UKOLN, University of BATH, UNITED KINGDOM

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Andrea MULRENIN, Salzburg Research, for operative issue, AUSTRIA

Stefan RHODE-ENSLIN, S.M.B. Institut für Museumskunde - Staatliche Museen zu Berlin –Stiftung
Preussischer Kulturbesitz, GERMANY

Marius SNYDERS, Ministerie van Onderwijs, Cultuur en Wetenschap-De Hoftoren, THE NETHERLANDS

Gert VAN TITTELBOOM, Ministerie van de Vlaamse Gemeenschap, BELGIUM

Introduction

This document provides a commentary and exploration of the ten 'Quality Principles' published by the Minerva project.

The ten principles are short and provide little guidance as to how they are to be implemented or how to assess whether or not a website complies with them. This document aims to add supporting information to each of the principles.

For each of the ten principles, this document provides

- A commentary, providing interpretation, background information and motivation for the principle

- A set of criteria which can be used to assess whether or not a website is compliant with the principle

- A checklist, based on the criteria, which can be used in assessing the website

- A set of practical and pragmatic tests and questions which a website owner can use to gain further insight into the compliance of his site

The ten principles are aimed at cultural websites – those concerned with museums, libraries, archives and other cultural institutions. However, the principles are quite generic and can be applied to almost any website. This document adds a cultural emphasis to the principles, where this is appropriate and adds value.

The Ten Quality Principles

The full text of the Ten Quality Principles is as follows:

A quality European cultural website celebrates cultural diversity by providing access for all to digital cultural content.

A quality website must:

- o be **transparent**, clearly stating the identity and purpose of the website, as well as the organisation responsible for its management

- o select, digitise, author, present and validate content to create an **effective** website for users

- o implement quality of service policy guidelines to ensure that the website is **maintained** and updated at an appropriate level

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- be **accessible** to all users, irrespective of the technology they use or their disabilities, including navigation, content, and interactive elements

- be **user-centred**, taking into account the needs of users, ensuring relevance and ease of use through responding to evaluation and feedback

- be **responsive**, enabling users to contact the site and receive an appropriate reply. Where appropriate, encourage questions, information sharing and discussions with and between users

- be aware of the importance of **multi-linguality** by providing a minimum level of access in more than one language

- be committed to being **interoperable** within cultural networks to enable users to easily locate the content and services that meet their needs

- be **managed** to respect legal issues such as IPR and privacy and clearly state the terms and conditions on which the website and its contents may be used

- adopt strategies and standards to ensure that the website and its content can be **preserved** for the long-term

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How to Use this Guide

A website should be assessed against each of the principles in turn. The importance of each principle varies with the life-cycle stage of the project – some are more important during project planning, others when the project is largely complete, etc. Consult the Principles Priority Matrix (section 12) for details.

For each principle:

1. Read the commentary and note how the principle applies to your website

2. Review the set of criteria, adjusting them to fit your own particular circumstances, if necessary

3. Complete the checklist

4. Carry out the tests and answer the questions

5. Review your site again and identify steps which need to be carried out to improve the quality of your website

6. Prioritise these steps, plan and implement them

I. Transparent

Introduction

This section examines the first quality principle, that *"A quality website must be transparent, clearly stating the identity and purpose of the website, as well as the organisation responsible for its management ".*

It

-   examines how to interpret the transparency principle,

-   outlines criteria for establishing whether or not a website is transparent

-   suggests a checklist of website characteristics to be used to ensure transparency

-   describes a number of tests which can be taken in order to verify that the website is transparent.

Commentary

Identity, Mission and Ownership

The transparency principle dictates that a high-quality website will

-   be clearly identifiable

-   have an obvious purpose or mission

-   be easy for the user to compare with his own information requirements

Transparency is a fundamental property of any high-quality website. There are millions of websites in existence; even using a good search engine will lead the end user to thousands of possible sites. For example, searching for 'Italian Cultural Website' yields almost **350,000** results. So, when users reach your website, they must immediately be assured that

-   this is in fact the type of website they are looking for

-   the website may contain the information that the user is looking for

-   the website is run by a cultural sector organization

Transparency is all about reducing user confusion and uncertainty – a transparent website will be totally clear as to its focus, its role and its content. The users should learn, as soon as possible,

-   what they will find on the site,

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- whether the site will meet their information requirements.

Immediate Transparency

'As soon as possible' is an important part of this requirement – the users should not have to navigate the site before finding out what the site is about, who owns the site and whether the site is in fact what they are looking for. This means that the critical identity and site profile information should be available to the users on the front page of the site, or at worst after a single click. To achieve this, a site should have

- a site name that gives information about the site

- a mission statement or site summary

on the first screen.

Name

The **site name** should give a clear indication of what the site is about. Thus '*Notre Dame Cathedral*' is to be preferred to '*De Sully's Dream'*, or '*The Vatican Museum'* to '*Treasures of the Pontiffs'*. While fanciful and imaginative names are a valid element of marketing strategies, transparency can suffer.

URL

Usually, the URL of the site will not be sufficient to serve as the site name. While a URL such as 'notredame.fr' could be expected to be the site of Notre Dame Cathedral, an explicit site name is to be preferred. In addition, some URLs reflect organizational divisions or agencies, rather than content and this could reduce the immediate transparency.

Indeed, in such a situation, the registering of a transparent domain name, with subsequent URL hiding provided by the ISP, should be considered. The cost of domain name registration is rather low – the increase in transparency that such a small investment returns is worth considering for almost all cultural websites. Institutions may wish to consider using appropriate Top Level Domains where available or appropriate such as .eu, .org or .museum.

Mission Statement

Regardless of the site name, a brief '**mission statement'** for the site should be made available to the user as soon as possible. This statement should be available in as many languages as practical. The statement should consist of no more than fifty words. Its purpose is information, not entertainment or marketing. It should state

- the subject of the website

- the most important content on the site

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- the organisation responsible for maintaining the site and

- (optionally) the target audience

If, for design reasons, the first page of your website is a 'splash screen' with animation, beautiful images or other non-textual material, then this identity and mission statement information should be available after a single click. However, such a non-informational front page has a negative impact on the transparency of the site and may be avoided unless viewed as a very high priority. In the event that such a home page is used, it should be possible to by-pass the front page to the information immediately, for example with a '*skip intro*' button.

Criteria

The following criteria should be met if a site is to be considered transparent. The degree of transparency reflects the number of these criteria which are met; thus a site can be '75% transparent' if not all the criteria are met.

Some of the criteria overlap across the quality principles. For example, a site profile in multiple languages increases the transparency of the site for an international audience but also impacts on the multi-linguality of the site.

- The site name must be clearly displayed

- The site name must indicate the nature and purpose of the site, its content and owner, as far as possible

- The site URL should provide as much information as possible about the nature of the site

- The site home page should contain at least the following:

  o The site name

  o The mission statement

  o The name of the organisation responsible for the site

- The site home page should be the first page that the user sees when he visits the site (e.g. index.html), or if a Flash animation or a visual presentation is used as the site home page (deprecated) then it should be possible to bypass this.

Checklist

This section presents a checklist to evaluate a site.   Yes /No/ n.a.

      Site Name appears on browser title bar (topmost line of browser).   □   □   □

      The active part of the site appears on browser title bar   □   □   □

Site name is clearly displayed in a prominent manner on home page □ □ □

Site name indicates purpose and nature of site □ □ □

Site URL is indicative of the purpose of the site □ □ □

Mission statement exists □ □ □

Mission statement appears on front page □ □ □

Mission statement available in multiple languages □ □ □

Easy to switch mission statement languages □ □ □

Organisation name is prominently displayed □ □ □

Any animation or visual display can be bypassed □ □ □

Practical Tests

This section suggests some simple, pragmatic tests and questions to be asked in order to assess how completely your website meets the transparency principle

1. Does the site name appear on the browser title bar ?

2. Does the part of the site (e.g. 'Exhibitions', 'Mission Statement') also appear on the title bar, in order to facilitate navigation ?

3. Is the site name the most prominent text on the front page ?

4. Does the site URL indicate the nature of the site ?

5. Is the mission statement prominently displayed on the front page ?

6. Does the mission statement clearly state the aims, nature, owner and content of the site ?

7. Is the mission statement available in multiple languages ?

8. Is it clear and easy to switch from one language to another ?

9. Does the front page state clearly the identity of the organisation responsible for the creation and maintenance of the site ?

10. If an animated or other non-informational front page is used, can this easily be bypassed or skipped ?

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II. Effective

Introduction

This section examines the second quality principle, that *"A quality website must select, digitise, author, present and validate content to create an effective website for users"*.

It

- examines how to interpret the effectiveness principle,

- outlines criteria for establishing whether or not a website is effective

- suggests a checklist of website characteristics to be used to ensure effectiveness

- describes a number of tests which can be taken in order to verify that the website is effective.

Commentary

The core of the effectiveness principle is **content** - a high-quality website must have content that is

- appropriately *selected* and *relevant*

- valid and *correct*

- accompanied by appropriate commentary and *supporting information* and

- *well-presented*

A second crucial element of an effective website is the ease with which users can *navigate* the material presented therein.

Relevance and Selection

Cultural websites are typically produced by cultural organisations which have, as a major asset, very large amounts of cultural content. This content may be books, images, statues, buildings, historic sites, or indeed take other forms. In many cases, the total holdings of a cultural institution cannot be placed on a website, simply because there is too much material. This means that **selection is critical**. Any project or initiative which is creating a cultural website must set selection criteria which allow it to choose which content is to be digitised and published online. The criteria will vary from project to project, from institution to institution. Good examples include

- user demand – choose the most popular items,

- target audience – choose the items likely to be of most value to your chosen audience; this may vary depending on who you are serving,

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- conservation – choose the most delicate items, and restrict access to the originals

- project themes – choose items which fit the theme of the project

- cooperation with other institutions - choose items which fit the theme of a cooperative exhibition or project involving other institutions

but there are many more possible selection criteria.

A well-chosen set of online items will greatly enhance the value of a cultural website to its target audience. Presenting the content that the end user is looking for greatly increases the effectiveness of the user. Of course, this requires that you understand what your user is looking for – some research in this area may be worthwhile before starting the technical aspects of the project.

Correctness

Regardless of the items selected and presented on a cultural website, it is a critical responsibility of the cultural organisation to ensure that the information and content provided are factually correct. Cultural websites have major educational and research impact and are important resources for these domains – errors of fact greatly undermine the value of any cultural site.

Ensure that the content and any accompanying text (see below) is reviewed by curatorial or sectoral experts before publication. Often, the technical staff involved in digitisation and Web publication may not have the specific expertise required.

It may be noted, however, that in the event that the source material is itself not 100% factually correct, this may be flagged and made obvious to the user, rather than simply not being displayed.

Supporting Information

While the core of many cultural websites will be the unique cultural items which are presented there, the site will gain a great deal of end-user value if all items are supported by additional information. Such information may cover the provenance of the items, historic events or individuals relevant to the item, links to related items in the same and other cultural institutions, literary references to items, etc.

A bare image, regardless of the item represented, is of limited value to the typical end user. The supporting information increases the value of the content and the effectiveness of the site.

Cultural websites should consider using an established meta-data standard, such as Dublin Core, as a framework for their supporting information. This is discussed further under the interoperability principle.

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As far as feasible, labels and supporting information should be multi-lingual. This increases the audience for which the site is effective.

Presentation

The overall usability and look-and-feel of any website, including cultural sites, has a major impact on the effectiveness of the site. This area includes navigation, colour choice, image presentation, etc.

Much of this is quite subjective in nature. However, the following should be borne in mind by all cultural websites

- All images should be clearly labeled, with a caption in addition to any ALT text which is linked to the image

- The relationship between images (or 3D presentations or other digital artifacts) and supporting information should be clear. There should be no confusion as to which image a particular description applies to. This applies equally to multi-lingual information

- All internal and external hyperlinks should work and the link should lead where the user expects

- Images should be presented at a suitable resolution. For cultural content, high resolution is often important to allow proper study. Suitable technical solutions for this should be applied. Such solutions will need to take IPR into account

- Large images should be presented as low resolution thumbnails, with the option to choose to download larger (slow-to-download) images

Navigation

The ability to find one's way around a website and to access the information which meets one's particular requirements is central to the effectiveness of any website, cultural or otherwise.

While the topic of website navigation is too large to cover in any detail here, the following pragmatic notions may be taken into account

- The user should always know where he in on the site, relative to the other parts of the site. This is typically achieved with mechanisms such as the 'crumbtrail' *(>>you are here >> site >> content >> category >> page >*, or similar)

- The user should always be able to return to the page that he most recently visited. This ideally should be by using the browser 'Back' button; the use of technologies which hamper this should be avoided if possible

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- For large pages, a menu of 'page jumps' may be considered. These bring the user to a particular section within a page, without the need to scroll down

- The user should always be able to return to the homepage of the website. This may be a function of the 'crumbtrail' or may be implemented by always having the option to click a button marked 'Home' or something similar

- An overview of the site structure, with links to the main sections, can simplify the finding of information that the user needs. A site map (with a structure of less than 4 levels of depth) may be provided

- The ability to search the site should be provided. This specialised search tool should be as comprehensive as possible, in order to maximise the likelihood that the user finds what he wants. Both META and simple text indexing should be considered

Criteria

The following criteria should be met if a site is to be considered effective. The degree of effectiveness reflects the number of these criteria which are met; thus a site can be '75% effective' if not all the criteria are met.

Some of the criteria overlap across the quality principles. For example, the use of meta-data standards is relevant to the interoperability principle, while presentation and navigation are central to the user-centric principle.

Criteria for effectiveness include

- User needs have been drawn up based on research involving user groups

- Content selection criteria reflect the requirements of the target audience

- All items are correctly labeled (identified)

- All items are linked to the correct supporting material

- All supporting material is factually correct

- Items and supporting material have been reviewed by sectoral/curatorial experts

- Supporting information should be structured in compliance with international meta-data standards

- Item labels and supporting information are multi-lingual

- All internal and external links work as expected

- Images are presented at a suitable resolution

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- Where necessary, thumbnails are used

- High-resolution images are also available (subject to IPR)

Additional Criteria for Navigation include (but are not limited to), the following:

- Crumbtrail available

- Browser 'back' button works as expected

- Page jumps used if necessary

- Home page always accessible

- Site map available (tree structure)

- Site search facility in place

Checklist

This section presents a checklist to evaluate the site.

	Yes	/No/	n.a.
User needs have been drawn up based on research involving user groups	□	□	□
Content selection criteria reflect the anticipated user needs	□	□	□
All items are correctly labeled (identified)	□	□	□
All items are clearly linked to the correct supporting material	□	□	□
All supporting material is factually correct	□	□	□
Items and supporting material have been reviewed by experts	□	□	□
Supporting information complies with international meta-data standards	□	□	□
Item labels and supporting information are multi-lingual	□	□	□
All hyperlinks work as expected	□	□	□
Images are presented at a suitable resolution	□	□	□
Where necessary, thumbnails are used.	□	□	□
High-resolution images are also available (subject to IPR)	□	□	□
Crumbtrail available	□	□	□
Browser 'back' button works as expected	□	□	□
Page jumps used if necessary	□	□	□
Home page always accessible	□	□	□
Site map available	□	□	□

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Site search facility in place   □   □   □

Practical Tests

This section suggests some simple, pragmatic tests and questions to be asked in order to assess how completely your website meets the effectiveness principle

1. Have focus groups or other user representatives been consulted as to the choice of content which would make the site as effective and useful as possible for them ?

2. Have formal content criteria been drawn up, and followed, which reflect the target audience requirements ?

3. After digitisation and building of Web pages, have experts reviewed the content to ensure that item labeling (identification) is correct ?

4. Have experts also reviewed the supporting information / description ?

5. Is it clear which supporting information belongs to which cultural artifact ?

6. Is supporting information in line with international meta-data standards such as Dublin Core ?

7. Are item labels or supporting information available in multiple languages ?

8. Is it easy and clear to switch between languages ?

9. Have all internal and external hyperlinks been tested ?

10. Are images presented at a suitable resolution ?

11. Are image download times acceptable ? Even for slow Internet connections ?

12. Has the use of thumbnails been considered ?

13. Are high-resolution images also available?

14. Have IPR and Digital Rights Management issues been considered for such images ?

15. Have the navigation suggestions been considered ?

16. Have the focus groups reviewed the site in terms of usability and navigation ?

III. Maintained

Introduction

This section examines the third quality principle, that *"A quality website must implement quality of service policy guidelines to ensure that the website is maintained and updated at an appropriate level"*.

It

- examines how to interpret the 'maintained' principle,

- outlines criteria for establishing whether or not a website is maintained

- suggests a checklist of website characteristics to be used to ensure quality of service is delivered

- describes a number of tests to verify that the website is delivering quality of service.

Commentary

This principle addresses the need for any website, cultural or otherwise, to deliver quality of service. It focuses specifically on the issue of currency – the information on the website must be up to date and maintained. This means that

- website content which becomes **obsolete** or irrelevant after a given date should be removed after that date

- content that needs to be kept up to date, such as the ongoing progress of a project or initiative, should be **maintained**

- content should be reviewed periodically to ensure that it is still relevant and correct. Any requirement for **refreshing** of content should be carried out

In addition, it is worthwhile noting that a 'new look', even just at front page level, can encourage new visits to an unchanged site.

Technical Maintenance

Maintenance also refers to keeping the site 'up' and available on the Internet. This leads to a requirement for regular site backups and for the deployment of appropriate technical resources to have the site technical platform functional. Technical maintenance should be the subject of a service level policy which indicates what is required.

Obsolescence

Many websites, both cultural and otherwise, have 'latest news' and 'upcoming events' or 'what's on' sections. These often have a high profile, for example with links directly

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from the front page. Such sections rapidly age, as the events or news which they describe become obsolete or pass by.

A website which has no recent news or events, or which persists in promoting events or news which are far in the past, gives a bad impression of not being maintained. Even if the site also contains a large amount of durable information, this may never be explored because of 'old' information discouraging the user.

It is important that obsolete material be removed. However, it may be advisable to 'archive' such material, so that it remains available for a certain period after its removal.

Content Maintenance

Another important type of website content purports to keep the end user up to date (for example on the progress of a project). Such content is intended to have new material added to it periodically, each new addition supplementing the older material. It is important that such material be kept up to date and maintained.

A progress report or other 'diary' style of content that ceases to be maintained gives a clear impression that the site is no longer of interest. Again, this may discourage the user from further investigation of the site.

Clearly, this type of content naturally comes to an end, with the project or process which it documents. When this occurs, the content should be concluded with a final section which reviews the rest and gives closure to the process. This may optionally be followed by the migration of the content to some other part of the website.

Refreshing

Even for websites with no specifically time-critical content, there is a need to maintain the site. Almost any content will, if reviewed some months after it has first been created, appear 'dated' and no longer fresh. This is particularly true of information such as contact details and phone numbers, personnel information, discussions of other projects and initiatives and any other content which is not truly static.

Cultural websites often have a high proportion of truly static information. Digitised cultural items, with descriptions and labels, do not change a great deal over time. But virtual exhibitions and informal discussion information will become stale.

Any high-quality website should have all its non-static content reviewed on a periodic basis, even if only once every few months. Such a process should be built into the management plan for the website.

Criteria

The following criteria should be met if a site is to be considered well-maintained. The degree of maintenance reflects the number of these criteria which are met; thus a site can be '75% maintained' if not all the criteria are met.

Criteria for being maintained include

- time-critical content removed when obsolete

- dates of conferences, meetings, etc. used as the basis for removal

- news and updates removed or archived when out of date

- diary-style or progress report content kept current

- no suddenly-stopping progress reports

- diary-style material cleanly ended and finalised when the subject process completes

- all content reviewed periodically and refreshed when necessary

- occasional 'face-lifts' and new look considered

- technical service level policy in place

- backup procedures established and tested

- hardware and software systems in place to ensure service availability

Checklist

This section presents a checklist to evaluate the site.	Yes	/No/	n.a
Obsolete material archived for a set period before deletion	□	□	□
Progress-report content all up to date	□	□	□
No 'hanging' or unexpectedly ended progress-report content	□	□	□
Ended progress-report content concluded and summarised	□	□	□
Ended progress-report content migrated to new site location	□	□	□
Policy of review and refreshing of all non-static website content	□	□	□
Periodic refreshing actually taking place	□	□	□
'New look' or 'facelift' implemented in last six months	□	□	□
New look or facelift considered / planned	□	□	□
Technical service level policy established	□	□	□
Backup procedures in place and tested	□	□	□
Hardware and software platforms in place to ensure system remains 'up'	□	□	□

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Practical Tests

This section suggests some simple, pragmatic tests and questions to be asked in order to assess how well your website is maintained

1. Does your website contain information which refers to specific events or news, with specific dates ?

2. If so, are all such dates in the future, or do you have some 'old news' on your site ?

3. Does your website present long-term or medium-term progress reports (e.g. of a project, an artistic exercise, a theatre season, a ballet on tour, etc.)

4. If so, is it kept fully up to date ?

5. Does your website contain progress reports of now-completed initiatives ?

6. If so, have they been concluded and summarised ?

7. Do you have a policy for the migration or repositioning of completed progress-report initiatives ?

> If not, have you planned one?

> If so, is it fully implemented ?

8. Do you have a policy of periodically reviewing and refreshing your website content ?

> If not, should you consider one ?

> If so, is it fully implemented ?

9. Have you considered a new user interface or new home page in the last six months ?

> Would this encourage its use ?

10. Does your site have a backup procedure in place ?

11. Has it been tested ?

12. Does your site have an agreed and implemented availability service level policy ?

13. Are there backup or hot-swappable or redundant hardware and software platform elements in place to ensure ongoing availability ?

IV. Accessible

Introduction

This section examines the fourth quality principle, that *"A quality website must be accessible to all users, irrespective of the technology they use or their disabilities, including navigation, content, and interactive elements ".*

It

- examines how to interpret the accessibility principle,

- outlines criteria for establishing whether or not a website is accessible to all

- suggests a checklist of website characteristics to use to ensure open access

- describes a number of tests which can be taken in order to verify that the website is as accessible as possible.

Commentary

Technical Access and Assistive Technology

The accessibility principle focuses on the need to serve all members of the user community. These will include blind and partially sighted people, deaf and hard of hearing people, people with motor nerve problems and dexterity issues, people with reading difficulties or people with learning difficulties. It is worthwhile to bear in mind that the accessibility requirements of several groups of disabled people remain little considered, for example those of deaf people and people with learning difficulties. It is important to note that culture is part of the heritage and patrimony of all EU citizens – thus, they must be able to access cultural websites.

Web technologies make great use of images, icons, shapes and colours to interact with the user. This visual interface is one of the major success factors of the Web, rendering it attractive and intuitive to the general public. Unfortunately, this visual focus sometimes makes the Web less accessible to those who have visual disabilities.

A distinct class of technologies exists which act as an interface between the Web and those who have difficulties using the standard browser-mouse-keyboard access paradigm. They include user interface devices to replace the mouse and keyboard, Braille screens and keyboards as well as software applications which 'read out' Web pages.

The core of the accessibility principle is that cultural websites must facilitate the use of such supplementary technologies. In practice, that means that websites should aim to comply with the international best practice and standards which govern accessibility. The most widespread of these is the **W3C Web Access Initiative (WAI)** guidelines (http://www.w3.org/WAI/). These guidelines award a certain compliance level to

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websites, based on the degree to which they facilitate supplementary access technologies. To a large degree, this can be interpreted to mean the degree to which a textual equivalent is provided for every visual interface element, such as images, buttons, icons, etc. This may take the form of a parallel 'text-only' version of a website, or involve careful planning and implementation of a dual-purpose site.

Fortunately, tools are available which automate the process of compliance verification. Such software should be used by all cultural institutions. A list of accessibility testing tools is available at http://www.w3.org/WAI/ER/existingtools.html

It must be noted that automated tools alone cannot detect if a page is accessible. You will need to have a systematic process for testing accessibility using manual testing, if possible testing by people with disabilities.

The principle makes a particular note that all aspects of the website should enable universal access. Thus, it is **not only static elements of the site that must comply with the appropriate standards**; forms, discussion fora, interactive elements, short-term and rapidly obsolescent content must all comply.

It may be noted that there is an increasing trend to **mandate** accessibility, usually expressed in terms of compliance with the W3C WAI guidelines, as part of the specification of national and government-funded websites. Thus, this principle is likely to be mandatory in most EU states in the foreseeable future.

Technical Access

Another important aspect of accessibility is the need to support multiple technologies. What this means is that cultural websites should not present their online material in a manner or form which relies on the use of a single, particular presentation technology. Proprietary extensions and plugins should be avoided. Multiple browser types (e.g. Mozilla-based browsers, Netscape, Opera, not just Internet Explorer) should be supported, consideration should be given to hand-held and mobile presentation platforms.

In addition, the site should be usable by those who have only a slow (e.g. 56 kbps) connection to the Internet. This has implications for the manner and quality of presentation of cultural material, which is typically multimedia or at least 'image-heavy' in nature.

Criteria

The following criteria should be met if a site is to be considered accessible. The degree of accessibility reflects the number of these criteria which are met; thus a site can be '75% accessible' if not all the criteria are met.

- The site should aim to comply with W3C WAI guidelines. The site should have appropriate policies and systematic procedures for ensuring the site meets appropriate accessibility guidelines

- The site should be usable and have appropriate policies and systematic procedures for ensuring the site's usability

- During the design of the website, the use of excessive and unnecessary visual-only and multimedia cues, such as animation, should be avoided

- The use of colour to create semantic borders between different parts of Web pages should be avoided, unless a second and complementary approach is used to define the same borders

- The site should be planned such that the text of the site, on its own and without any images or other elements, can give a full impression of the site and can transmit a high proportion of the total value of the site

- The site should not rely on proprietary technologies or extensions, nor on the use of plugins

- The site should support multiple browser types

- The site may support mobile and handheld devices and should take them into account during design and development

- The site should support meaningful access for those with slow Internet connections

Checklist

This section presents a checklist to evaluate the site. It should be noted
that there are a large number of accessibility checkpoints - these are
best explored by consulting the W3C guidelines at http://www.w3.org/WAI/   Yes /No/ n.a

	Yes	No	n.a
Site complies with W3C WAI guidelines	☐	☐	☐
Compliance was planned from the start, to maximise text-only value	☐	☐	☐
Animation and multimedia used only where necessary	☐	☐	☐
No proprietary technologies or plugins used	☐	☐	☐
Multiple browser platforms supported	☐	☐	☐
Slow Internet connection not a major obstacle to use	☐	☐	☐

Practical Tests

This section suggests some simple, pragmatic tests and questions to be asked in order to assess how completely your website meets the accessibility principle

1. Does the site appear comply with W3C WAI guidelines ?

2. Was the site planned from the start to support access from a wide range of delivery channels ?

3. Does the site make sense without any images ?

4. Does the site still have value without any images ?

5. Was the site planned from the start to support universal access ?

6. Does the site rely on proprietary extensions or plugins ?

7. Are multiple browser types supported ?

8. Are mobile and handheld devices supported ?

9. Are slow Internet connections supported ?

V. User-Centred

Introduction

This section examines the fifth quality principle, that *"A quality website must be user-centred, taking into account the needs of users, ensuring relevance and ease of use through responding to evaluation and feedback"*.

It

- examines how to interpret the user-centred principle,

- outlines criteria for establishing whether or not a website is user-centred

- suggests a checklist of website characteristics to be used to ensure that the needs of the user take priority

- describes a number of tests which can be taken in order to verify that the website is as user-friendly as possible.

Commentary

The user-centred principle focuses on the need to serve first and foremost the requirements of the end user. A Web site is essentially a user facility, providing information and services to the end user; thus, it is critical that the user finds the website useful, easy to use and attractive.

User-centricity has a number of important aspects, which include

- Relevance of content – does the user find what he needs ?

- Interface ease of use - is the user comfortable with the manner in which content and services are presented ?

- Navigation – can the user easily find what he wants ?

- Involvement – can the user influence how the website is designed and how it evolves over time ?

- Engagement – can the user contribute content which enriches the website ?

These aspects correspond to almost all the other quality principles, particularly transparency and effectiveness – this reflects the central and critical nature of this principle. Relevance, user interface and navigation are discussed with these other principles – this section focuses on

- user consultation

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- user involvement and

- user contribution

Consultation

It is sensible for any organisation that is planning, designing or implementing a website to **consult with users** at every stage. This will help to ensure that the website meets user needs and expectations. It will avoid the provision of a service that nobody wants.

This is particularly the case for cultural websites, where there is a strong likelihood that the organisation developing a website has a great deal of sectoral experience. This will mean that the team involved is likely to be comfortable with terminology, jargon, methodologies and knowledge frameworks which are specific to the cultural sector. However, the website will often be aimed at the general public, who may find the results difficult to understand, jargon-heavy or oddly structured. By **involving samples of the target audience** (e.g. users with visual impairments or school children, or late Internet adopters), a realistic grounding for site planning will be achieved.

Focus groups of end users should be involved in every stage of the project. Their work should be to review and provide feedback on those aspects of the project which have most impact on users

- content relevance

- user interface

- navigation

- presentation

- interactive elements

- accessibility

Formal testing and collection of feedback in the form of **questionnaires and interviews** should be used, so that empirical, rather than anecdotal, evidence for design decisions is available. Particularly useful is usability testing with individual users, where users are given a task and then observed carrying out that task. The observation, which must not include guidance on how to use the website, will show where navigation and presentation is not clear to users.

Involvement

After the site is completed and 'goes live', **facilities must be presented for users to provide feedback** and opinions on the site, its content, the user interface, navigation, etc. Such facilities might include an online version of a feedback questionnaire, a free-form comments page, etc.

Contribution

Users can also contribute to the richness of a cultural website by enabling **users to create additional content**, linked to existing items or exhibits. The stories, memories and material created and contributed by the general public are often very fascinating and unique cultural material - a cultural website can use its wide reach and interactive facilities to stimulate the creation of such content.

Criteria

The following criteria should be met if a site is to be considered user-centred. The degree of user-centricity reflects the number of these criteria which are met; thus a site can be '75% user-centred' if not all the criteria are met.

Some of the criteria overlap across the quality principles. As noted above, user-centricity is so important that it includes elements of transparency, effectiveness, maintenance and accessibility.

- A dedicated focus group, representative of the target audience, should be involved in the specification and design process, so that the end result meets real user needs

- Users should review prototype Web pages, user interface elements and content presentations. Suggestions and feedback should be elicited

- User feedback should be formally documented

- Such feedback should feed into the design process and implemented

- When the site is live, there should be online facilities to allow users to comment and provide feedback

- This feedback should feed into site reviews, rebuilds and 'facelifts'

- The site may include facilities to allow users to contribute content (recommended)

Checklist

This section presents a number of points against which a site can be checked. Yes /No/ n.a.

	Yes	No	n.a.
Users involved in the specification and design process	□	□	□
Users have reviewed prototype site elements	□	□	□
Suggestions and feedback have been elicited	□	□	□
User feedback has been formally documented	□	□	□
Feedback has been fed into the design process and implemented	□	□	□
Online facilities exist to allow users to comment and provide feedback	□	□	□

User feedback fed into site reviews and rebuilds ☐ ☐ ☐

Site includes facilities to allow users to contribute content ☐ ☐ ☐

Practical Tests

This section suggests some simple, pragmatic tests and questions to be asked in order to assess how completely your website meets the user-centred principle

1. Have you recruited a dedicated user focus group ?

2. Does the user group truly reflect your target audience ?

3. Are all major elements of your target audience represented in your focus group ?

4. Has the website concept and aims been clearly communicated to your focus group ?

5. Has your focus group reviewed prototype Web elements ?

6. Has your focus group provided feedback ?

7. Has the feedback been formally documented and included in the design process ?

8. Has this feedback been reflected in later prototypes ?

9. If your site is 'live'

   a. Do online feedback facilities exist ?

   b. Are they promoted ?

   c. Are they being used ?

   d. Is the feedback being documented formally and kept for the next site review ?

   e. Is the feedback being evaluated, in case there is an urgent need for change ?

10. If user contribution to your site is appropriate

   a. Do online content contribution facilities exist ?

   b. Are they fully documented and easy for the public or your target audience to use ?

   c. Are they being used ?

   d. If not, is this due to lack of promotion or difficulty of use, or do your users really have nothing to contribute ?

VI. Responsive

Introduction

This section examines the sixth quality principle, that *"A quality website must be responsive, enabling users to contact the site and receive an appropriate reply. Where appropriate, encourage questions, information sharing and discussions with and between users"*

It

- examines how to interpret the responsiveness principle,

- outlines criteria for establishing whether or not a website is responsive

- suggests a checklist of website characteristics to be used to ensure responsiveness

- describes a number of tests which can be taken in order to verify that the website is responsive.

Commentary

Responsiveness is concerned with the ability for the site and the site owners to **respond to user questions and suggestions**. Ideally, such responses should be in an open forum arrangement, so that other users can contribute to the discussion, learn from the answers given to other users, etc. Responsiveness goes beyond the issue of user-centricity, because it includes the concept of user participation and user content production, rather than simply user consumption of content.

A responsive site **adds value and interest** for the end users because of its interactive nature. As users have the ability to add material to the site, to ask questions and share opinions, this makes the site more attractive.

Responsiveness is **particularly important for cultural websites**. The high knowledge value and the educational and research applications of cultural material means that questions are likely and the need for expert assistance is quite high. In addition, the value of the information exchange (question, answer and explanation) is likely to be high, since it concerns cultural matters.

As noted in the previous (user-centred) section, the ability for users to add content is recommended for cultural websites.

The notion of responsiveness must be **supported and implemented** within the organisation. A specified member of staff must have time and resources allocated to answering queries and to managing any fora or other online facilities for user interaction. This member of staff must in turn have access to sectoral experts who are ready and willing to help.

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Clearly, issues arise with the moderation of user-contributed content. The cultural website, with its high national profile, must not be used to publish inappropriate or unacceptable material. Procedures must be in place to approve user-contributed content and to remove material which is not suitable.

A **policy** for responsiveness is recommended. Such a policy may state levels of service to be supported, in terms of recommended response times.

Criteria

The following criteria should be met if a site is to be considered responsive. The degree of responsiveness reflects the number of these criteria which are met; thus a site can be '75% responsive' if not all the criteria are met.

Some of the criteria overlap across the quality principles. For example, the ability to add user content to a website is relevant both to this principle and to the principle of user-centricity.

- A facility for users to ask questions must be available

- An identified resource to receive the questions and to answer them must be available

- This resource should have been trained and briefed

- This resource must have access to sectoral experts

- These sectoral experts must have been briefed and must have committed themselves to assisting where necessary

- A policy regarding speed of response may be formally framed and adopted and published on the site

- A forum or discussion area where users can share questions, answers, experiences, ideas and suggestions may be made available (recommended)

- A moderation and approval process must be in place to ensure that the site is not used as a vehicle for unacceptable or inappropriate content

- Such a forum should be managed by an identified, committed member of staff, working under similar conditions to the response resource discussed above

Checklist

This section presents a number of points against which a site can be checked. Yes /No/ n.a.

      Question-asking facility available   ☐ ☐ ☐

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Response resource identified   □ □ □

Response resource trained and briefed   □ □ □

Response resource has access to sectoral and curatorial experts   □ □ □

Experts have been briefed and have committed to support responses   □ □ □

Response service level policy has been adopted   □ □ □

User forum available   □ □ □

Forum management resource identified   □ □ □

Forum management resource briefed and trained   □ □ □

Moderation process in place   □ □ □

Forum management resource has access to experts   □ □ □

Practical Tests

This section suggests some simple, pragmatic tests and questions to be asked in order to assess how completely your website meets the responsiveness principle

1. Does the site have a screen where questions can be asked ?

2. Is there a member or staff or a team in place who can answer questions ?

3. Has this resource been briefed and trained ?

4. Has this resource got time allocated to him/them to provide this service ?

5. Does this resource have access to specialist experts who can authoritatively answer questions at any level about the material on the website ?

6. Have the experts been briefed and have they committed to providing support ?

7. Is there a user response policy in place ?

8. Has this been explained to and endorsed by the relevant personnel ?

9. Is there an open forum, discussion board or other mechanism where users can discuss questions and issues ?

10. Is there a moderation process in place which protects the site from inappropriate contributions ?

11. If so, is this managed by a responsible resource, with time allocated to it, access to experts, full training, etc. ?

VII. Multi-lingual

Introduction

This section examines the seventh quality principle, that *"A quality website must be aware of the importance of multi-linguality by providing a minimum level of access in more than one language".*

It

- examines how to interpret the multi-linguality principle

- outlines criteria for establishing whether or not a website is multi-lingual

- suggests a checklist of website characteristics to be used to ensure multi-linguality

- describes a number of tests which can be taken in order to verify that the website is multi-lingual.

Commentary

Websites are a means for the public to **access** online cultural heritage. As discussed in the accessibility principle, above, access should be universal. The greater the audience that can be reached and served by a website, the greater the value of the site.

Language can be an important barrier to access. This is particularly true for European cultural websites – there is an enormous amount of high-quality content, but there are also many different European languages. A cultural website must aim to go beyond its national and linguistic boundaries and to serve the widest possible number of European citizens.

Typically, cultural websites present the cultural resources of a particular member state or a group of its citizens. This focus may be even tighter, and present only the material held by a region, an institution, a group of citizens or a particular collection. Thus, it is natural that the site be **created in a relevant language** and be aimed primarily at serving the needs of a key target audience.

The audience for the cultural material goes beyond linguistic and national boundaries. A high-quality website will aim to provide at least a basic service to those who do not speak the 'mother tongue' of the website. Ideally, the site will provide a service in all EU Member State languages.

Support for sign languages may also be considered.

If this is not feasible, the website owner should focus on providing as much as possible of the website in as many (and as popular) languages as possible. Even a partially-multi-lingual website is to be preferred to a monolingual one. At a basic level, this should

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include an outline of the content and purpose of the website in at least one other official language of the EU. The languages of sizeable immigrant communities may also be supported.

Multi-linguality should be **planned at the earliest stage** of website design. The need for user interface elements in more than one language means that the technical design of these user elements should take this into account. The efficient use of resource files and the separation of the overall user interface from the text strings presented within it should be considered. This makes supporting multiple languages and adding new languages a good deal easier than 'bolting on' new languages after the site is complete. This principle should also be adopted in the development of embedded objects, such as Flash movies, 3D and virtual reality applications.

It may help to have multi-lingual aspects of the site published and endorsed as a formal **multi-linguality policy**. Such a policy could then be used to validate elements of the site as they appear, in order to verify that multi-linguality was being provided.

Criteria

The following criteria should be met if a site is to be considered multi-lingual. The degree of multi-linguality reflects the number of these criteria which are met; thus a site can be '75% multi-lingual' if not all the criteria are met.

Some of the criteria overlap across the quality principles. Multi-linguality also impacts on the transparency of the site, on its accessibility and on its user-centricity, for example.

- Some site content should be available in more than one language

- Sign language may be supported

- Non-EU languages spoken by immigrant communities supported

- Site identity and profile information should be available in as many languages as possible

- The core functionality of the site (searching, navigation) should be available in multiple languages

- Ideally, static content (images and descriptions, monographs, other cultural content) should also be available in multiple languages

- Switching between languages should be easy

- The site structure and layout should not vary with language – site design and user interface language should be logically separate.

- Multi-linguality should be driven by a formal multi-linguality policy

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- Site elements should be reviewed in terms of the multi-linguality policy.

- Steps should be taken if site elements are not as multi-lingual as they should be.

Checklist

This section presents a checklist to evaluate the site   Yes /No/ n.a.

	Yes	No	n.a.
Some site content available in more than one language	□	□	□
Some site content available in sign language	□	□	□
Some site content available non-EU immigrant languages	□	□	□
Site identity and profile available in more than one language	□	□	□
Site core functionality available in more than one language	□	□	□
Static content available in more than one language	□	□	□
Simple switching between languages	□	□	□
Site structure and user interface independent of language	□	□	□
Multi-linguality policy exists and drives multi-lingual aspects	□	□	□
Multi-linguality reviews take place on site	□	□	□

Practical Tests

This section suggests some simple, pragmatic tests and questions to be asked in order to assess how completely your website meets the transparency principle

1. Does the site have any multi-lingual content ?

2. Does the site identity and profile material appear in more than one language ?

3. Is there any material presented in sign language ?

4. Is there any material presented in non-EU languages which are used by immigrant populations ?

5. Is the site's non-static information available in multiple languages ?

6. Is the static (cultural) information available in more than one language ?

7. Is the site structure logically separate from the language in use ?

8. Was multi-linguality planned into the site from the very start ?

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9. Does the site have a stated multi-linguality policy ?

10. Is the site reviewed against such a policy ?

VIII. Interoperable

Introduction

This section examines the eighth quality principle, that *"A quality website must be committed to being interoperable within cultural networks to enable users to easily locate the content and services that meet their needs".*

It

- examines how to interpret the interoperability principle,

- outlines criteria for establishing whether or not a website is interoperable

- suggests a checklist of website characteristics to use to ensure interoperability

- describes a number of tests which can be taken in order to verify that the website is interoperable.

Commentary

This principle broadens the focus of quality beyond the individual website, by considering **how it can interface with other cultural websites** and with entities, such as cultural portals, which are higher and lower in the information hierarchy.

The focus here is on **standards**. If a cultural website is created using standard technologies and techniques, data models and interfaces, this facilitates interaction and interoperability with other cultural websites and online entities. The standards may cover areas such as (but not restricted to)

- Meta-data

- Website technologies

- Harvesting

- Distributed Search

Standards must be taken into account **from the inception** of the website. It is a great deal simpler to build a website compliant with standards, than to re-invent the wheel and then have to build translation layers and other interface elements.

The details of any **interfaces** that the site exposes for interoperability purposes should be fully and clearly documented, to facilitate subsequent integration into distributed cultural resources.

A second important area is that of **discoverability**. For a site's value to be exploited, it must be accessed by the user, either directly or in a network of sites. This is related to the

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Transparency criterion. A site must make clear, to automated search engines and tools as well as to the human user, what it contains and the services or content that it offers.

Meta-data

Interoperability for many websites is largely a question of being able to share information across websites and other online entities. For such applications it is important that similar data models and meta-data element sets are used for semantically similar items and concepts. To that end, there are a number of standards that should be taken into account in the creation of a website and its underlying database or data model. See, for example, the Minerva Technical Guidelines document for more information.

Website Technologies

Interoperability is greatly facilitated if a predictable set of technologies is used to create and present the website. This applies both for interoperability and for the user experience. Thus, vendor-specific extensions to the standard Web technologies (XHTML, HTML, JavaScript) should be avoided. Any website functionality that requires the download and installation of extra technology (e.g. plugins) is also deprecated.

Disclosure

If websites treat interoperability as a high priority, they should consider exposing information about their content as meta-data records that can be '**harvested'**. Typically this means support for OAI meta-data harvesting tools. Such meta-data should include collection-level meta-data as well as item-level meta-data.

Discoverability

A related issue is discoverability. A website must make it clear, to both human and automated intelligences (such as search engines), what the content of the website is, what areas it focuses on and the nature of its collections, content and services.

The aim here is to profile and describe the site as a whole, rather than any databases it hosts or any specific content which can be accessed on the site. For this purpose, the RSLP collection-level meta-data set may be useful. The use of Dublin Core and RSLP meta-data in the META tags of a site may be appropriate. If a portal or inventory to cultural websites exists, then any cultural website in the domain of the inventory should consider contributing meta-data to it.

Distributed Search

The ability to remotely search a website also makes the website more useful as an element in a greater content continuum, thus building on its interoperability.

There are two aspects to this – the searching of the site itself and the searching of the databases or catalogues which are accessed via the site.

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The searching of the site itself can be facilitated by the use of metadata (META) tags in the page headers of each page. In addition, a site search tool may also be in place, with a documented interface to allow it to be invoked remotely.

The searching of catalogues and databases hosted on the site may involve running a Z39.50 server or implementing an SRW/SRU Web services interface. However, a subset of such functionality can also be exposed by having a consistent web search interface.

This document can only give the most cursory of information regarding the standards needed for interoperability. Other resources (such as the Minerva Technical Guidelines document) should also be consulted.

Criteria

The following criteria should be met if a site is to be considered interoperable. The degree of interoperability reflects the number of these criteria which are met; thus a site can be '75% interoperable' if not all the criteria are met.

- Research into standards and best practice should have taken place before site design began

- The site should have been designed using the relevant standards

- The meta-data model should comply with relevant international standards and may comply with Dublin Core and/or DC.Culture

- The website technologies should use only standard XHTML, HTML and XML. JavaScript is acceptable but not formally recommended. Proprietary extensions are deprecated.

- Disclosure functionality should use a standard technology such as the OAI PMH protocol.

- Distributed search of site itself may use page-level META tags, a site map and/or a site search tool

- Distributed search of catalogues and databases may use Z39.50 or SRW/SRU

- A site-level metadata profile should exist. This profile may use the RSLP metadata model. The use of RSLP and/or DC in the META tags for the site homepage (or elsewhere) should be considered

- External interfaces should be clearly documented

Checklist

This section presents a number of points against which a site can be checked. Yes /No/ n.a.

Standards and best practice research took place before site design ☐ ☐ ☐

Site design uses relevant standards where appropriate ☐ ☐ ☐

Meta-data uses Dublin Core or DC.Culture ☐ ☐ ☐

Website uses no proprietary HTML extensions ☐ ☐ ☐

Disclosure functionality uses OAI ☐ ☐ ☐

Distributed database or catalogue search uses Z39.50 or SRW/SRU ☐ ☐ ☐

Distributed site search possible. ☐ ☐ ☐

Distributed site search using META tags possible ☐ ☐ ☐

Distributed site search uses a site tool with a remote interface ☐ ☐ ☐

Discoverability profile exists ☐ ☐ ☐

Discoverability profile uses appropriate standard such as RSLP ☐ ☐ ☐

All external interfaces documented ☐ ☐ ☐

Practical Tests

This section suggests some simple, pragmatic tests and questions to be asked in order to assess how completely your website meets the interoperability principle

1. Was desk research carried out before website design began ?

2. Did this focus on relevant standards ?

3. What standards were identified as most relevant ?

4. Is the meta-data model based on Dublin Core ?

    a. If not, why not ?

5. Does the website work with any browser ?

6. Is disclosure functionality implemented using OAI harvesting ?

    a. If not, why not ?

7. Does the website have a site-level metadata profile ?

    a. Does the profile use a standard such as RSLP ?

    b. Is the profile also implemented using the META tags on the homepage ?

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      c. Are the contents of the META tags expressed in DC, DC.Culture and/or RSLP ?

8. Is distributed site searching implemented ?

9. Is distributed catalogue and/or database searching possible ?

10. If it is, can it be searched remotely ? And is the remote searching method the standard in use, in the expected interoperability partners ?

IX. Managed

Introduction

This section examines the ninth quality principle, that *"A quality website must be managed to respect legal issues such as IPR and privacy and clearly state the terms and conditions on which the website and its contents may be used".*

It

- examines how to interpret the management principle,

- outlines criteria for establishing whether or not a website is managed

- suggests a checklist of website characteristics to use to ensure management

- describes a number of tests which can be taken in order to verify that the website is managed.

Commentary

The primary concern of this principle is to ensure that due care and attention have been paid to **non-technical, non-cultural issues such as intellectual property, rights (IPR) management and privacy**. This principle focuses, therefore, on the ethical and legal aspects of website provision.

For cultural websites, this principle is particularly important. Cultural websites typically publish a good deal of high-value content on the Internet; the potential for commercial and unauthorised re-use of such material is high. The wide appeal of cultural material means that IPR and rights protection must be high on the agenda for any cultural site. The following are **important areas** that need to be considered if this principle is to be adhered to:

- Protection of the rights of the owners of any content published on the site

- Protection of the rights of the site owner against abuse by the end user

- Protection of the site owner against litigation by the content owner

- Protection of the privacy of the end user

This list is not exhaustive, but includes some of most important areas.

Content Owner Rights

Often, a cultural website may portray or publish content which represents cultural artefacts or items which do not belong to the site owner. This is particularly the case for portal sites which aggregate and display the holdings of multiple physical institutions.

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Thus, protecting the rights of the content owner may mean protecting the site owner, but it may also mean protecting third parties.

The protection of owner's IPR typically involves copyright and defence against the unauthorised reproduction or exploitation of images from the website. There are a number of approaches to this, including

- Publication of only low-quality images and representations

- Publication and user endorsement of website access conditions and codes of practice

- Watermarking

    o Visible

    o Invisible

    o Digital

Site Owner Rights

The creator of a content site probably holds copyright over the structure of the site and the creation of a new database, even if the content itself belongs to third parties or is in the public domain. This means that wholesale copying of a database is not permitted. Practical steps to avoid this are restricted to having the user actively agreeing to a code of practice or access conditions.

Site Owner Protection against Litigation

It is important that any cultural website be built on a firm legal foundation. If content is to be presented on the website that has been created by, or is copyrighted by, third parties, then clear legal documentation should exist which formally allows this to occur. This protects the site owner against possible legal difficulties with the content owners. The concrete steps to take here are the establishment of binding legal agreements between all parties.

End User Privacy

The end user must also be protected against invasion of privacy. If user information is submitted (e.g. names, addresses) then this must be protected in line with data protection directives. Unwanted cookies or other 'spyware' should not be placed on the user's computer. Unnecessary information about the user should not be maintained on cultural (or any) websites. The site should contain an explicit privacy policy which can be reviewed by the end user.

Criteria

The following criteria should be met if a site is to be considered managed. The degree of management reflects the number of these criteria which are met; thus a site can be '75% managed' if not all the criteria are met.

- The content on the site should be protected against unauthorised reproduction or exploitation

- The IPR of the site owner which cover the site as a new database creation should be protected

- The relationship between content owner and site owner should be placed on a firm legal footing

- The privacy of the end user should be protected

Checklist

This section presents a number of points against which a site can be checked.   Yes /No/ n.a.

	Yes	No	n.a.
End user must actively endorse a code of conduct or access terms and conditions (e.g. by ticking a tick box)	☐	☐	☐
Content quality (e.g. image resolution) is restricted	☐	☐	☐
Content is watermarked digitally	☐	☐	☐
Content is visibly watermarked	☐	☐	☐
Site terms of use protect the site owner from infringement of his IPR over the database as a whole	☐	☐	☐
Legally binding agreement exists between content owners and site owner, governing the use of content on the site	☐	☐	☐
User privacy policy available for end user review	☐	☐	☐
No spyware or tracking cookies used	☐	☐	☐

Practical Tests

This section suggests some simple, pragmatic tests and questions to be asked in order to assess how completely your website meets the 'managed' principle

1. Does an end user code of conduct exist ?

2. Must the user actively endorse it ? (A tick-box is to be preferred to a 'click here to agree' button).

3. Does the end user code of conduct include protecting the overall database, as well as the content in the database ?

4. Are steps taken to restrict the potential unauthorised reproduction or exploitation of content ?

   a. Limited image resolution ?

   b. Visible watermarking ?

   c. Digital watermarking ?

5. Do legal agreements exist between the site owners and the content owners ?

6. Do these agreements protect the site owner in the event of third party infringements of content owner IPR ?

7. Is a user privacy policy available ?

8. Is it (or a link to it) prominently displayed for the end user ?

9. Are records kept of user access or user information ?

10. Are these records necessary ?

11. Are these records protected in accordance with privacy legislation and directives ?

X. Preserved

Introduction

This section examines the tenth and final quality principle, that *"A quality website must adopt strategies and standards to ensure that the website and its content can be preserved for the long-term ".*

It

- examines how to interpret the preservation principle,

- outlines criteria for establishing whether or not a website can be preserved

- suggests a checklist of website characteristics to use to ensure preservability

- describes a number of tests which can be taken in order to verify that the website can be preserved.

Commentary

This principle focuses on **long term preservation** and how to facilitate it. An underlying reality and risk factor for all websites, cultural and otherwise, is the rapid evolution of technologies. This means that there is a strong likelihood that the dominant publication and rendering technologies in the medium and long-term futures will be quite different to those in use today. This in turn has the consequence that websites created today are likely to be inaccessible in the longer-term future.

This concern is of **particular relevance to cultural websites**, because the material presented there is typically of long-term value. Cultural material is likely to be as valuable in twenty years' time as it is today, with only few exceptions. This makes a long term preservation strategy a critical part of any cultural website and a key quality indicator.

The key focus for long term preservation is the digitised cultural material that is hosted on the website. These images, multi-media displays, digital text, etc. will hold their value for much longer than the website which displays them today.

It is not feasible to predict with any reliability the technologies and approaches that will be used for information access in the future. Instead, any long term preservation strategy must work on the basis that there will be some demand, in the future, for material which is being produced today. Some technologies will continue to be supported, or will be the subject of migration or emulation tools which will allow them to be accessed. It is a reasonable assumption that **the technologies that will have the most support in the future are those which are dominant and standard today**. Thus, to increase its prospects of long-term preservation, any website should utilise standard technologies and approaches to as great a degree as appropriate.

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Long term preservation has **a good deal in common with interoperability** - in this case, the website must interoperate with future systems, rather than remote ones. Again, strategies should emphasise the use of standards in areas such as

- Data models

- File formats

- Presentation (website) technologies

- Media

In addition to the use of standard technologies, website owners should have explicit **strategies** for dealing with shorter-term preservation, and agreed approaches for the longer term. For example,

- backup and restore procedures must be put in place, to preserve cultural information after machine outages, tape corruption, etc.

- Disaster recovery plans must be in place, which deal with the consequences of fire, flood and earthquake

- Media with good medium-term durability, such as Digital Linear Tape (DLT-tape) should be used for periodic backups, supplementing other common storage media such as CD and DVD

- The archiving of content over the Internet to a remote server, data farm or web archive which has another, complementary preservation strategy may also be considered. If selected for preservation by a web archive, then permission should be given, with agreement to reasonable IPR agreements

- Archived media should be reviewed and tested periodically, to protect against media corruption

- Migration onto new media should be considered, when older media reach close to their expected corruption or degradation dates

There remains an important element of technical uncertainty with regard to long term preservation. However, a website manager can lay the foundations for successful long term preservation by establishing **policies and procedures** which will facilitate preservation in the future, as the technology evolves.

Footnote: *several third party organisations (e.g. the Internet Archive) currently archive elements of the Internet based on their potential cultural value and long-term interest. While such an organisation could potentially act as a preservation vehicle, it would not be advisable to rely upon them as the sole source of such preservation.*

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Criteria

The following criteria should be met if a site is to be considered amenable to preservation. The degree of readiness for preservation reflects the number of these criteria which are met; thus a site can be '75% prepared for preservation' if not all the criteria are met.

Some of the criteria overlap across the quality principles. As noted above, there is a good deal of parallel between long term preservation and interoperability; both promote the use of standard technologies and approaches.

Criteria for long term preservation include the following:

- Long term preservation policy exists

- Short term preservation strategy includes

    o Backup

    o Disaster recovery

    o Remote backup

    o Durable media such as DLT

- Medium term preservation strategy includes

    o Replacement of aging media

    o Migration to new media as they become dominant

    o Migration or emulation of content formats and presentation technologies, as replacements appear

- Website uses standard file formats

- Website uses standard presentation technologies

- Website avoids the use of proprietary technologies, plugins, etc.

Checklist

This section presents a number of points against which a site can be checked. Yes /No/ n.a.

	Yes	No	n.a.
Long term preservation policy exists	☐	☐	☐
Short term preservation strategy exists	☐	☐	☐
Web site backed up regularly	☐	☐	☐
Off-site backups held	☐	☐	☐

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Disaster recovery plan exists	□	□	□
Disaster recovery plan has been tested	□	□	□
Periodic backups taken to more durable media (e.g. DLT)	□	□	□
Medium term preservation strategy exists	□	□	□
Media migration has been considered	□	□	□
Media migration is planned or ongoing	□	□	□
Replacement of aging media planned or ongoing	□	□	□
File format and presentation migration and/or emulation planned or ongoing	□	□	□
Website content uses standard file formats	□	□	□
Website uses standard presentation technologies	□	□	□
Website avoids proprietary extensions and plugins	□	□	□

Practical Tests

This section suggests some simple, pragmatic tests and questions to be asked in order to assess how completely your website is prepared for long term preservation

1. Has a long term preservation policy been drawn up ?

2. Has a short term preservation strategy / backup plan been drawn up ?

3. Is it in effect ?

4. Is the website backed up regularly ?

5. Are backups held off-site ?

6. Are master periodic backups held on DLT or other more durable media ?

7. Does a full disaster recovery plan exist ?

8. Has it been tested ?

9. Has a medium term preservation plan been drawn up ?

10. Does it include

   o Media refreshing ?

   o Media migration ?

   o File format migration or emulation ?

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11. Does the website use standard file formats ?

12. Does the website use standard presentation technologies ?

13. Does the website use proprietary extensions and technologies ?

14. Does the website use plugins or downloadable extra functionality ?

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Principles Priority Matrix

Introduction

This section explores the relationships between the various stages of a website life-cycle and the ten quality principles. It identifies the most important principles for each stage of the website life-cycle.

This matrix uses a modified version of the life-cycle outlined in the *Minerva Good Practice Handbook* and *Minerva Technical Guidelines* document. The following stages of the life-cycle are identified. These differ from the other versions of the life-cycle because this document is concerned with websites, rather than digitisation projects.

1. **Website Planning** – the notion of the site is first discussed, the target audience identified, the services and types of content to be provided are decided. Policies on privacy, preservation, access, etc. are drawn up.

2. **Website Design** – the manner in which the website will provide the services and present the content is decided. The technology platform is chosen. If a particular presentation paradigm (e.g. a virtual museum tour, or a book, or…) is chosen, this occurs at this stage.

3. **Content Selection** – based on the material available, the target audience and the plan for the website, selection criteria are drawn up. The content to be presented is selected.

4. The **Digitisation Process** – the content is digitised and master images and other digital material are created. Supporting information is prepared.

5. **Storage and Preservation of the Digital Master Material** – the digital master material is safely stored away. Delivery or presentation copies of the masters are made for Web publication.

6. **Metadata Capture** – meta-data describing the selected content is collected and stored in a data store (database, XML, etc.)

7. **Website Implementation** – the website is implemented, on the basis of the policies, the content available and the website design.

8. **Online Publication** / Go Live – the website is made available to the target audience.

9. **Ongoing Maintenance** – the website is kept up to date. Feedback and suggestions from end users are acted upon.

For each principle-stage pair, a value between 1 and 3 is provided:

   1 – Low priority

2 – Mid priority

3 – High priority

	Website Planning	Website Design	Content Selection	Digitisation Process	Store and Preserve Masters	Meta-data Capture	Website Implement	Online Publication	Ongoing Maintenance
Transparent	2	3	1	1	1	1	3	3	2
Effective	2	3	3	1	1	2	3	3	2
Maintained	2	1	2	2	1	1	1	3	3
Accessible	3	3	1	2	1	1	3	1	1
User-centred	2	3	1	1	1	1	3	1	2
Responsive	2	2	3	1	1	1	2	3	3
Multi-lingual	3	3	2	2	1	1	3	2	1
Interoperable	3	3	1	3	2	3	3	2	2
Managed	1	1	3	1	2	1	1	1	1
Preserved	1	1	2	3	3	3	1	1	2

Notes

The most critical stages for quality are

- Website planning

- Website design

- Website implementation and

- Online publication

This is to be anticipated, since these are those stages most directly concerned with the site itself. Of course, maintenance of the site should not compromise on quality in the future.

Multi-linguality and interoperability are very important, right across the board. This reflects the fact that they must be planned into a site, and cannot be 'bolted on' later. Responsiveness, on the other hand, can be implemented after the rest of the site.

Conclusion

Quality is a critical characteristic of any website. It has particular resonance in the cultural sector because of the importance and value of the material being presented on cultural websites. As use of the Internet as an information access medium continues to grow, exposure to culture via the Internet becomes more and more prevalent. As the Internet is used more and more for education and research, the quality of online content becomes more and more important.

This document has discussed the ten quality principles in some detail. The key messages are

- Quality must be planned into a website from the start

- The user is critical – involve him at every stage

- Relationships with other online resources (interoperability) and with future resources (long term preservation) must be given due thought

With proper planning, and building on the information, examples, standards and guidelines available, creating a high-quality website need not be much more difficult, expensive or slow than creating a lower-quality one.

Minerva References

The list of references would be very large and it was impossible in this context to make it exhaustive. The decision was to limit intentionally this list the Minerva products to avoid a risk of incompleteness.

Minerva Quality Principles

(http://www.minervaeurope.org/structure/workinggroups/userneeds/documents/cwqp.htm)

Minerva Technical Guidelines document.

(http://www.minervaeurope.org/publications/technicalguidelines.htm)

Minerva Good Practice Handbook

(http://www.minervaeurope.org/publications/goodhand.htm)

Minerva Quality Handbook

(http://www.minervaeurope.org/publications/qualitycriteria.htm)