

Guidelines on Dissemination of Information through Government Websites

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I. Introduction

The Government is committed to making Hong Kong a leader in the use of information technology. A key mechanism for achieving this objective is the Internet. The Government has taken a leading role in the use of the Internet for the dissemination of information by mandating the development of Government websites and requiring that they be provided in English, traditional and simplified Chinese.

2. The Government's objectives are that its websites be designed to provide the relevant information in an efficient and effective manner and in a format that encourages access by the local and international communities.

3. These guidelines state the Government's Internet information dissemination strategies and provide practical guide and useful information for producing and developing websites for bureaux and departments. The guidelines will be revised from time to time to cope with the rapid changes in the Internet medium. An up-to-date version will be maintained at the Government Intranet Central Cyber Government Office ("CCGO") and ITG Infostation. A slightly adapted version of the guidelines for public reference is also hosted at the Office of the Government Chief Information Officer (OGCIO) website at <http://www.ogcio.gov.hk>. Glossary of Internet terms is available at <http://www.matisse.net/files/glossary.html>, <http://www.ogcio.gov.hk/eng/itaware/eglomenu.htm>, <http://www.sharpened.net/glossary/index.php> and <http://www.walthowe.com/glossary>. This document is one of the specifications under the HKSARG Interoperability Framework ("IF").

4. Bureaux and departments should also observe these guidelines as far as practicable when they develop and revamp their departmental Intranet websites.

II. Internet Information Dissemination Strategies

(A) To Build Websites on Clear Objectives and a Client-centric Design

5. A clear objective is vital for a well-structured website. With clear objectives, bureaux/departments can be more effective in identifying target groups of users and in designing content and presentation of their websites. The objectives of the website should be closely related to the missions and visions of bureaux/departments.

6. The structure of websites should develop on the information needs of target users: a client-centric design. A thorough analysis will be needed to define clear objectives and understand the requirements of the target users in order to create client-centric websites. In addition to an initial analysis of requirements, on-going traffic monitoring will ensure that websites continually meet the expectations of the target users (see also para. 19 below).

7. The main topics in a client-centric website should be categorised in such a way that Internet users can generally locate the required information with ease. In most situations, such client-centric websites should be topic based. Websites which categorise information simply according to the structure of bureaux/departments will turn Internet users away as it may take a lot of efforts to locate the information wanted. Indeed, the structure of bureaux/departments should best be shown in the organization charts.

(B) To Make Use of Government Websites as an Efficient Means of Disseminating Information

8. With an exponential increase in global Internet population, a website is an efficient and powerful tool in disseminating information. Government information, in brief or in detail, can be brought before a wide spectrum of local or overseas users in the shortest possible time at minimal efforts.

9. Bureaux/departments should make full use of their websites to disseminate information. Indeed, the general public expects to find in Government websites information that is available in other media. Information dissemination on the Internet and in other media should generally be simultaneous. Major public announcements should be made available on the website as soon as possible. The GovHK Joint Management Team should also be notified immediately for creating links from GovHK to such announcements. Bureaux and departments should only use the Portable Document Format (“PDF”) for the publication of very long documents or when the exact formatting must be preserved. PDF format should not be used for publishing information that are of wide public interest because the PDF format may not be readable on mobile devices or by users without the necessary

reader. Apart from improving services, bureaux/departments maintaining websites can also expect a reduction in printing costs and staff costs for manning enquiry lines.

10. The following should in particular be observed in disseminating information on Government websites:

- (a) Uploading as much printed materials as possible on websites. Information in printed materials such as reports, publicity leaflets, and consultation papers, is part of the useful information the general public is looking for in the cyber space. It should always be borne in mind during the preparatory stage of the materials that an Internet version is a required format. This helps to avoid problems in conversion of file formats at the later stage; and
- (b) Providing press releases on important issues in the websites of bureaux/departments. Press releases are an important information source carrying the most updated Government news. Via a computer system, all government press releases are automatically uploaded onto the Internet at <http://www.info.gov.hk/gia/> minutes after their dissemination to the media. It is a convenient way for the public to look for specific press releases in the websites of bureaux/departments. This can be done simply by providing a press release web page in departmental websites and creating links to the press releases concerned.

(C) Migrating content to GovHK

11. GovHK, the one-stop portal of the Hong Kong Government, hosts a comprehensive range of information and services most frequently sought by the general public. It is developed incrementally and when it is fully built, users should find most of the information and services they need right inside GovHK itself. They will only have to visit departmental / thematic websites when they are looking for more specific / technical details on particular subjects or programmes. Below are guidelines for migrating content from departmental / thematic websites to GovHK:

Higher priority is given to migrate the following types of content:

- (a) Topics that are of extensive interest or concern to the public;
- (b) Information and services that are frequently sought / used by the public;
- (c) Information and services that relate to a number of bureaux/departments; and

- (d) Information and services that the general public often has difficulty locating on the Web.

There are exceptional cases where special considerations will be given to the following types of content which are otherwise of lower priority in content migration:

- (a) Topics that are technically complex, which may involve frequent system updating, or hosting in external systems;
- (b) Topics that involve lengthy texts which should be carried in PDF files;
- (c) Content owner's independent or statutory status, which by migrating the content to GovHK may cause confusion to the public or jeopardise the entity's position;
- (d) Established thematic websites which have been established for a long time and have already built up a substantial audience base. Migrating the content to GovHK might upset the site integrity; and
- (e) Sites with consolidated links to the commercial sector or NGOs (where B/Ds are in a better position to keep these links updated from time to time).

(D) To Strengthen Interactive Elements in Websites

12. Stepping into the 21st century, providing interactive online service will be a major trend in the delivery of public services. Bureaux/departments should strengthen the interactive elements in their websites.

13. Apart from electronic services, such as filing of forms, renewal of licences and payment of bills, Government websites can also be interactive in information dissemination. In general, an interactive website is a client-centric site allowing users to find out easily the particular piece of information they ask for, instead of reading through the static information provided (see also para. 44 below). There are various degrees and means a website can be made interactive, especially with the aid of new computer programmes. Some common application examples for information dissemination include database application which can interact with users (e.g. providing relevant information after Internet users have input criteria/options); applications which present information according to users' preference (e.g. selecting the preferred sections only in a web page); and applications which can notify users (say via email) of new information they are interested in.

(E) To Promote Electronic Services to the Public

14. To promote electronic services to the public, information about such services should prominently feature in the websites. A complete list of electronic services with description of such services should be provided. The pre-requisites for using the electronic services, e.g. digital certificate, PIN, browser version, should also be explicitly stated. Policy bureaux should also list electronic services provided by the departments under their purview.

III. Internet Resource Centre, and Central Internet Gateway Support Team

15. The Internet Resource Centre (“IRC”) has been set up since March 1997 under the Information Services Department to provide assistance to bureaux and departments that wish to set up or improve their own websites.

16. With the setting up of both English and Chinese websites by bureaux and departments, IRC has fulfilled its mission in the initial development of Government websites. IRC now assumes the role of monitoring Government websites and advising bureaux and departments on effective use of websites in information dissemination.

17. Most government websites are hosted in the Central Internet Gateway (“CIG”) System supported by the CIG Support Team. Services provided include:

- (a) Architecture design, development and enhancement of the system;
- (b) System maintenance and daily operation support;
- (c) Technical advice and consultancy services for bureaux/departments on web projects; and
- (d) Internet domain name hosting services for government websites.
- (e) Testing environment before websites are launched.

Updated information is available in Infostation and CCGO.

18. In addition, OGCIO provides the following services for all government websites hosted in CIG or externally:

- (a) Statistics on visitors to their websites (<http://webstat.cis.gov.hk>);
- (b) Search service for information in their websites; and

IV. Content of Websites

(A) Defining Web Content

19. Developing client-centric content begins with ensuring that the content is aligned with the requirements of the target users and the site objectives. According to a consultancy study comparing local and overseas websites of governments and related organisations, the following content categories are regarded as necessary for a “best practice” site:

- (a) Providing a clear indication of the target users and the site objectives to allow a user to quickly determine if the site should be explored;
- (b) Providing a site map to outline the content of a website;
- (c) Providing report summaries, press releases and other “core” information with embedded links that allow users to easily navigate through the information;
- (d) Highlighting any recent updates or providing a “What’s New” section for recently updated information to facilitate repeated users;
- (e) Providing links to related external sites and encouraging other sites to provide links into your site as far as bureaux/departments deem appropriate;
- (f) Providing an index of downloadable materials, such as reports, bibliographies, glossaries, appendices of information;
- (g) Listing frequently asked questions to reduce the number of direct users’ enquiries; and
- (h) Providing contact information, including email, telephone number, fax number and mail address.

20. Government websites should be available in English, traditional Chinese character and simplified Chinese character (unless there is a strong reason for not doing so) and the writing style should be consistent with the language (i.e. avoid a direct translation) (see also para. 36 below). The use of jargons or abbreviations should be avoided.

(B) Essential and Useful Information

21. The information categories and their suggested contents are as follows:

1. Essential information

| Essential Information Category | Suggested Contents |
|---------------------------------------|--|
| (a) Organisation details | <ul style="list-style-type: none">• Organisation chart, including names of officers filling the directorate posts and telephone numbers of all posts shown in the chart• Responsibilities of individual divisions |
| (b) Public service | <ul style="list-style-type: none">• Description of main services or functions of the organisation• Information on services introduced or changed. User-friendly features include:<ul style="list-style-type: none">• A “how to” guide for accessing services• Key documents/forms required for accessing services• On-line access to services |
| (c) Performance pledges and success | <ul style="list-style-type: none">• Statements of performance pledges• Statistics measuring fulfilment of pledges |
| (d) List of records by category | <ul style="list-style-type: none">• List of categorised records which the public may have access to |
| (e) List of available information | <ul style="list-style-type: none">• Categorised list of information (either published or otherwise) made available, whether free or on payment. User-friendly features include:<ul style="list-style-type: none">• Softcopy of documents available for download |

- Procedures and charges for accessing/purchasing available information

- (f) Procedures and charges for access to information not routinely published
 - Description of the process for obtaining information
 - Standard photocopying charges
 - Application form for Access to Information
 - Contact information of Access to Information Officer, including name, email, telephone number, fax number and mail address for related enquiries

- (g) Consultation papers
 - Consultation papers in HTML format with internal links if feasible
(Note: Subsequent references to HTML in this document also applies to XHTML, and for simplicity sake, “HTML” will be used as the abbreviated version.)
 - An audio version of the summary or the full text should be provided to allow users to choose their preferred media.
 - Softcopy of documents (e.g. PDF format) available for download
(Note: Please ensure all “track changes” features are removed for word processing document files.)
 - Feedback channel for collecting views on consultation papers, i.e. email access for submitting response, postal contact details

- (h) Electronics services
 - List of services that can be accessed online. Policy bureaux should also list electronic services provided by the departments under their purview. Bureaux/departments should add a hyperlink to the list of electronic services on GovHK (http://www.gov.hk/en/about/os_residents.htm).

- (i) Public forms

2. Useful information

| Useful Information Category | Suggested Contents |
|--|---|
| (a) Site objective | • This provides Internet users with a concise description of the contents of the site, enabling them to quickly assess the site's relevance to their needs. |
| (b) Vision, mission and value statement of bureau/ department | |
| (c) Code on access to information | |
| (d) Survey results and statistics of public interest | |
| (e) Policies | • e.g. Policy Objective |
| (f) LegCo Briefs and Bills | • The documents should be uploaded after their release to legislators. |
| (g) Notices | • e.g. tender notices and recruitment advertisements |
| (h) Annual reports | • Summaries of reports should also be made available. |
| (i) Publications and papers | • e.g. reports, publicity leaflets, consultation papers, fact sheets |
| (j) Information unique to bureau/ department | • e.g. membership and terms of reference of advisory boards and committees related to the bureau/department |
| (k) Channels to access services (where and how) | |

- (l) Frequently asked questions
 - They should be categorised and indexed to facilitate easy access for Internet users.
 - They are valuable in reducing enquiries for frontline staff.
- (m) What's New section
 - This facilitates frequent users to access and bureaux/departments to publicise the most recent information.
 - The section should not be maintained as an archive of information in chronological order. Such practice prompts users to doubt whether the websites are updated.
 - A separate section of "What was new in (month)(year)" should meet the purpose. A "new" tag is useful to mark small updates in a site map or web pages.
 - The section may also serve as an advance announcement for planned items, such as soon to be released consultation papers.
- (n) Major press releases and speeches
 - It is valuable to provide an archive of news related information by date and topic. Bureaux/departments should create an index page of the press releases with each item linked to individual press releases (see also paras. 8 to 10 above).
- (o) Events
 - Providing event calendar, event descriptions and on-line registration for events (if feasible) is an inexpensive way to promote Government or social events to the general public.
- (p) Relevant external information
 - e.g. Hong Kong Laws on the Internet (Note: It is a good practice to inform the department concerned before creating links.)
- (q) Links to related Government departments
 - Links to other departments and to related boards and committees (with regard to terms of reference and membership lists)
- (r) Links to related external sites
 - Through use of links to additional related external sites, the breadth of content can be

easily expanded to better meet the content requirements of target users (see also para. 72 below).

- Bearing in mind that the website addresses change from time to time, the external links should be checked regularly to ensure that they still work.

V. Editing Content for the Web

22. Although basically the content formats of printed and Internet versions look the same, attention should be paid to paras. 23 to 26 below in editing content for web pages.

23. Conventional paper publications are vertically orientated, quite unlike the horizontal rectangular shape, small size and relatively low resolution of most computer screens. The traditional layouts are larger than the size of computer screens and hence users are required to continually scroll down (or horizontally) without ever seeing the whole page. The content should be edited accordingly prior to uploading.

24. An outstanding feature of web pages is the provision of hypertext links enabling users to skip “unnecessary” information and go direct to relevant information. Because of this, the structure of content in a web page may be quite different from conventional paper documents. It is useful to keep the main points in the first page, while keeping contents of secondary importance in subsequent pages which can easily be accessed by users via links.

25. Internet users in general do not expect to read lengthy documents on the computer screen. In editing web content, the paragraphs should be kept to a shorter length as far as practicable.

26. If a lengthy document is unavoidable, it is advisable to list the titles of the sections at the top of the page and provide links from titles to the relevant content underneath. Such practice enables Internet users to have an overview of a lengthy document and access the information they are interested in. Provision of navigation icons or text links such as “next”, “previous”, “top” are good user-friendly features.

VI. Updating of Information

27. It is the responsibility of a bureau/department to ensure that information put on the Internet is up-to-date. Bureaux/departments should determine, in respect of each document uploaded onto its websites, the frequency in respect of which the document should be updated.

28. A work schedule, containing a comprehensive list of updating frequencies thus determined, should be compiled for follow up by all staff involved in the updating of the websites. The work schedule should provide for the continuous updating of any information expected by the public to be 100% up-to-date. Examples of such information are organisation charts, holders of specific posts and telephone numbers.

29. To facilitate Internet users, bureaux/departments should post on each page a last revision date (修訂日期). The ‘What’s New’ section should be updated regularly. Some information may require less frequent updating (e.g. fact sheets). In that case some form of indication, e.g. last review date (覆檢日期), should be included to show that the information is still up-to-date. Either “Last revision date” or “Last review date”, whichever is the later, is to be used on each page. Outdated web contents should be removed from the website as soon as they are no longer applicable. Besides, for web pages dedicated for historical information, bureaux/departments should remark that the contents will not have further update.

30. Bureaux/departments should review and update their websites at least once a year.

31. There have been criticisms that the Government does not upload quickly enough onto its websites useful information relating to unexpected issues. Apart from the continuous updating of existing information, bureaux/departments should be prepared to respond efficiently to those issues by uploading necessary related information swiftly. Links to related websites should be checked frequently to make sure that they are valid. Similarly, all relevant hyperlinks should be updated before any removal of web pages, graphics files, topics, promotion icons etc. from the site. If there is any known external hyperlink pointing to these web pages, the webmasters of the “referring” websites should be informed of the update as well.

32. If webmasters are planning to take down a website temporarily by removing the web pages in question, webmasters should post a maintenance page with relevant information like reason of maintenance, time of resumption, etc., to inform users about the status.

33. Any out-dated or obsolete web pages should be removed from the production site. If these orphan pages are still retained on-line, they may be

accessible through the search results from search engines though no navigation path to the obsolete page is available. This may result in users getting incorrect or outdated information from the website. If the website is maintained and hosted by an external web-hosting company, the bureau/department concerned should ensure that all web pages are removed from the server of the company at the end of service contract or upon contract termination, as appropriate. Any obsolete domain names should also be deregistered as soon as they are not applicable.

34. Any remark statements in the source of web pages or script used during the development process or revision marks in documents should be removed before the website goes production. Any such information if not removed may open up opportunity for malicious attack. Test program or script should also be removed from the production site since malicious attackers may make use of any vulnerability in these test programs or scripts to compromise the website.

VII. Ensuring Content Accessibility

35. Developing client-centric content extends beyond the selection, style and structure of the content. It includes the content formats used for the dissemination of information. Unlike the content for printed publications, content on the Internet is not restricted to text. For users with the most up-to-date computer software, the user experience can be enhanced through the provision of graphics, downloadable files, audio, video and interactive mechanisms. The use of these formats, however, can reduce the usefulness of the site for users who are unable to access such variety of formats.

36. Government websites should include simplified Chinese character (“SCC”) version in addition to the English and traditional Chinese character versions to enhance the accessibility of the websites to other Chinese communities, in particular people in the Mainland. Such SCC version can be created during the development of the web page together with the English and traditional Chinese pages. The Simplified Chinese translation system available in the CIG provide a way for developing a simplified Chinese version of the website in offline mode. Webmasters of the websites can verify and review the translated web contents before actual publishing so that the web pages are guaranteed to be identical at all time (see also paras. 77 and 130 below)

37. The target users may be using older versions of Internet browsers, have visual impairment that requires the use of a screen reader, or have hearing impairment and cannot appreciate the audio content. In ensuring accessibility, while the use of new and innovative Internet technologies such as multimedia files is not to be discouraged, the equivalent information should be presented alongside in an alternative, accessible format. The following five areas should be looked into in ensuring accessibility of web content:

- (A) Using new technologies;
- (B) Providing documents for downloading;
- (C) Providing interactive content;
- (D) Making websites more easily accessible to people with disabilities; and
- (E) Labelling of Government websites.

(A) Using New Technologies

38. It cannot be assumed that the users will have the latest browsers capable of supporting the latest features such as advanced HTML and/or JavaScript. Some users may be using older versions of browsers which support text only.

39. To ensure accessibility:

- (a) Websites should be coded in such a way that both static and dynamic HTML versions are available for users to choose or to determine automatically, subject to the functionality of the browsers being used;
- (b) Graphics and other non-text objects should be labelled using descriptive tags (i.e. "Alt= ") so that they can be identified by the description;
- (c) Audio and video clips should be accompanied by a text-based alternative if practicable;
- (d) The pre-requisites of using more advanced browsers or plug-in should be stated and their downloading be provided, otherwise some Internet users may encounter unexpected difficulties in browsing; and
- (e) Animation at the entry page (e.g. Flash) though visually attractive, is not encouraged as it may obstruct some users. If animation is considered necessary, accessibility features (such as text description) of the animation should be incorporated where appropriate so that all users can enter the site. Furthermore, a text link "skip" option should also be provided at the top left corner of the website in case the users do not wish to wait for the completion of the entire animation programme. Design guidelines for accessible flash can be found at http://www.adobe.com/accessibility/products/flash/best_practices.html.

(B) Providing Documents for Downloading

40. Improved convenience, customer service and potential cost savings are the key drivers for providing downloadable documents on websites.

41. A potential accessibility issue in providing downloadable documents is that the customer must have the requisite software to view the document. This limitation can be overcome by providing documents in format such as PDF which can be viewed using software that are freely available on the Internet at no charge from the software vendors. PDF is particularly valuable for its graphical and accurate representation of formatted documents such as official forms. There should be a note to alert users that for the best viewing of the documents, latest version of the corresponding readers should be used and that installation of Asian Font may be required. To facilitate users, a hyperlink for accessing the required reader software should be provided when PDF documents are deployed. It is also advisable to give clear indication of the file format and file version so as to facilitate the users. The file size of

large documents should also be indicated to give the users an idea about the time required for downloading (see also para. 50(p) below).

42. The PDF files should be converted to Fast Web View PDF files – that is, optimised – before uploading them. This minimises file size and facilitates page-at-a-time downloading. With page-at-a-time downloading, the web server sends only the requested page of information instead of the entire PDF document to the user. This will save the downloading time for the user to view the PDF file online. The document summary of the PDF document containing information on the author, document title, keywords, etc. should be properly completed to facilitate keyword searching.

43. Some larger files may be cumbersome to download for those with slow Internet connections. It is useful to provide an email link, telephone or fax contact to enable the user to request a hard or soft copy of the document if required. Please also ensure all “track changes” features are removed for the downloadable word processing documents.

(C) Providing Interactive Content

44. Interactive content such as on-line transactions is used to improve upon traditional forms of “one-way” customer service. As with the formats discussed above, access to interactive content is dependent on the capabilities of the browser in use and, therefore, may not be accessible to all users. To ensure accessibility to content, a site should always provide alternatives for interactive services such as email links or phone numbers to allow the service to be easily obtained through other non-interactive channels (see also paras. 12 and 13 above).

(D) Making Websites More Easily Accessible to People with Disabilities

45. Internet users with visual impairment usually read websites with the aid of screen access programmes, usually called screen readers. Those programmes read aloud to the users all object attributes and text elements on a web page. However, they cannot comprehend graphics. Low-vision users usually view web pages with the aid of screen magnifying software.

46. There are two approaches to facilitate accessibility of websites by the visually-impaired. They are:

- (a) Providing an additional text-only version in addition to the primary version (or graphic version); and
- (b) Including features, such as brief descriptions and text links, in existing websites to make them more accessible to the visually-impaired (please see para. 50 below for details).

47. The additional text-only version can cater for more Internet users, such as the visually-impaired with less advanced screen readers, or users with less powerful computer equipment. However, some bureaux/departments, which have adopted this approach, are of the view that such an approach requires more effort for subsequent maintenance and updating.

48. The second approach, i.e. para. 46(b) above, is sufficient for the visually-impaired as long as the major accessibility design considerations are implemented in the web pages. This approach is more cost-effective in the long run from the providers' point of view since it saves the effort and expenditure in maintaining and updating two versions. It can also prevent asymmetrical contents in the two versions due to updating fault.

49. Since most users of Government websites are Hong Kong residents who normally possess relatively sophisticated computer equipment, the possible problem of being unable to cater for users with less powerful computer equipment in adopting the second approach may not be significant. Bureaux/departments may adopt the approach that best suit the objectives and target users of their websites.

50. The followings are important design considerations for improving the accessibility of web pages:

- (a) Provide text-equivalent for multimedia contents, such as images, graphics, image maps, animated graphics, audio, video contents and any embedded links associated with such contents. This can be done with the use of 'alt' HTML parameter, redundant text links or separate text description pages. Alternate text description should correspond to the language in use of that web page.
 - (i) For diagrams, pictures and photos, the alternate text should be brief and concise, and should describe what is important or relevant. For graphics and images used for decorative purpose only, an empty alternate text (i.e. alt="") is sufficient.
 - (ii) Animation effects, such as flash and animated GIF, should be avoided as far as possible. For cases where animation effect is considered to be absolutely necessary (e.g. advertisement banners), the content of the web page should be made accessible to screen readers by making available the accessibility features (such as text description) in the animation. As many visually impaired users are still using the less advanced screen readers which do not support

those accessibility features, a non-animated version should also be provided.

- (iii) For audio and video clips containing important information, a link to a written transcript of the audio/video content should be provided. If possible, a synchronised captioning should also be provided.
- (b) Use of colour – keep good colour contrast. Select colours that will make the pages easy to read by people with colour blindness. One good test is to see if the pages are readable in black and white.
- (i) Using similar colours together, such as light coloured fonts against a light background or choosing similar colours, e.g. blue against grey, would be difficult for users with low-vision.
 - (ii) Yellow objects with light/medium background are hard to discern for most low-vision users. Red is another problematic colour. Both colours however are fine when used in sharp contrast, e.g. blue fonts against yellow background.
 - (iii) More information on the use of colours can be found at the following site:
 - http://www.lighthouse.org/low_vision_defined.htm
 - http://www.lighthouse.org/print_leg.htm
 - http://www.lighthouse.org/color_contrast.htm
- (c) Font setting – font size should not be hard-coded and relative setting should be used, e.g. size = '+2', so that users can view fonts at their preferred setting.
- (i) Graphic fonts, which cannot have its font size adjusted, should not be too thin or too small.
 - (ii) Italics and underline characters, compared to normal characters, cannot be easily read by low-vision users. They should be avoided if possible.
- (d) Bilingual pages

- (i) Use separate pages for Chinese and English versions. This is to avoid system upset for some English screen reader software that cannot handle Chinese encoding.
 - (ii) If the entry page is in Chinese, the link to the ‘English version’ should be the first link at the top left-hand corner of the website to facilitate language switching. Limitation in English screen reader software is also the reason for placing the English version as the first link of the website.
- (e) Treatment of tables
- (i) Ensure that all column and row heading names are provided.
 - (ii) Break down complex tables into simpler and more manageable tables as far as possible.
 - (iii) Markup shall be used to associate data cells and header cells for tables with two or more logical levels of row or column headers.
 - (iv) Provide each table with a summary description, even for simple tables. The description should state the layout of the table and heading of each column. The description can assist users to map subsequent contents into rows and columns.
 - (v) Linear representation of a table is recommended in case the table is highly complex and the row/column format is highly irregular.
 - (vi) Guidelines on the handling of tables is provided in OGCIO website at http://www.ogcio.gov.hk/eng/knowledge/eaccess_tip_4.html.
- (f) Text-only version – providing a text-only version in addition to the primary version as an alternate means to achieve web accessibility.
- (i) If a text-only version is provided, its content should be the same as that of the primary version.
 - (ii) The text-only version should be updated at the same time as the primary version. Otherwise, users relying on the text-only version would be provided with less up-to-date

information.

- (iii) The design of text-only version should be as simple as possible. Choose colour schemes such that text and background are highly contrasted.
 - (iv) Websites with a separate text-only version should still provide alternate labels for all graphic elements in the primary version. This is to assist those low-vision users who prefer to use the primary version. Alternate labels can help these users in cases where text or symbols on graphic links and buttons are not easily legible due to poor colour contrast or small font size of the text.
- (g) Avoid flickering and blinking contents.
 - (h) Avoid use of auto-refresh and auto scrolling information which may disrupt normal reading sequence of screen readers. Provide users with enough time to read the contents. Ensure that users can complete tasks without unexpected changes in the contents.
 - (i) Avoid background sounds which may distract user's attention to web page content. Most screen reader users rely on speech output to access a web page and thus background sounds such as background music can be disturbing to these users.
 - (j) Users with physical disability may have difficulty interacting with moving objects. Where moving objects are used, allow the movement to be frozen on user input or provide an alternate entry for users to access the given function.
 - (k) Ensure that users can interact with the web page and its functions in a device independent manner, e.g. users can interact with either mouse or tab key.
 - (l) If possible, try to maintain browsing within the same window. Pop-up windows should be avoided. If pop-up windows are used, provide text description to inform the user of the new window and provide means to close the windows, e.g. via a 'Close this window' button. The number of pop-up windows should be kept to the minimum.
 - (m) Frames – Avoid use of complicated frames. Give frames proper titles to facilitate identification and navigation by users.
 - (n) Consistent design and clear navigation mechanism.

- (i) Avoid overcrowding of web page with lots of information. If it cannot be avoided, to help the visually-impaired grasp the overall structure of the web page, header element markup should be used. This feature can also facilitate the visually-impaired, with the help of screen readers, to jump directly to a particular heading which is of interest to them.
 - (ii) Related information should be grouped close together. This is especially useful to users with limited scope of vision.
 - (iii) Allow hot links, e.g. site map, to be easily accessible from various sections of the site.
 - (iv) To facilitate location of information and access of the text-only version (if provided), navigation links such as 'Site map', 'Text-only version' should be put as the first links at the top left corner of the website.
 - (v) Provide ways to help users navigate and locate contents, e.g. add a table of contents and a search function.
- (o) State important messages with simple and clear sentence structure. Use of picture or simple graphics to illustrate complicated message helps users with learning disabilities or with reading difficulty.
- (p) Portable Document Format ("PDF") files – PDF files are popular due to its portability features, which can be distributed electronically as well as read and printed by anyone who has the free Adobe Reader installed in their computers. This file type is suitable for distributing documents such as annual reports, policy objective documents, consultation papers, forms, pamphlets and PowerPoint presentation. Bureaux and departments should only use the Portable Document Format ("PDF") for the publication of very long documents or when the exact formatting must be preserved. PDF format should not be used for publishing information that are of wide public interest because the PDF format may not be readable on mobile devices or by users without the necessary reader.

Features are included in Acrobat software for making PDF file content accessible to assistive technology, such as screen reader and magnifying software. Guides for creating accessible PDF

files are available at <http://www.adobe.com>.

In particular, the following points should be noted in preparing a PDF file:

- (i) A PDF is accessible only if it is produced from text-based source document. For image-based documents, such as TIF files produced by scanning, it should be converted into a text-based document with an optical character recognition (“OCR”) software prior to producing the PDF document. One way to test if a PDF document is accessible is to select a portion of the text with the “text select” function in the Adobe Reader, copy them onto a txt document and then check if the text is editable;
 - (ii) Provide descriptive text for non-text elements; and
 - (iii) To assist navigation, provision of a table of contents or index in a large document is essential.
- (q) Forms – Online forms are the preferred alternative compared to other electronic forms such as PDF forms.
- (i) If certain users experience difficulties in completing the form by themselves, the form in (rtf), (txt) or (OpenDocument) format could be provided on an ‘as requested’ basis and be returned electronically.
 - (ii) In designing the layout of an online form, special care should be paid to the following:
 - Form labels and their respective text entry fields or form controls (e.g. radio buttons, check boxes, etc.) should be placed close together as far as possible. This is to facilitate low-vision users who browse with magnifying devices that can only show a small portion of the screen at a time; and
 - Ensuring the fields are arranged in a logical tab order, both on screen and in the HTML. Users who cannot use a mouse or other pointing device can only use the tab key to navigate a form. They will be confused if the focus jumps randomly from one field to the other on the form.
- (r) Client-side scripting – Scripting language, such as JavaScript, is

gaining popularity for achieving dynamic effects in displaying images or creating interface elements. While deployment of this innovative technology is encouraged, it should be noted that even the latest assistive tools could only provide partial support in handling it. Hence, the following should be noted when scripting language is used:

- (i) Its deployment is justifiable, e.g. the effect or functionality cannot be achieved by other means;
 - (ii) The operation is device independent, e.g. it can be operated with keyboard or mouse input;
 - (iii) For any scripting that produces a visible effect, other than those purely for decorative purposes (e.g. changing image colour), a descriptive text explaining its function or effect must be provided; and
 - (vi) An alternative non-scripting solution is provided wherever the scripting version is inaccessible.
- (s) The use of methods to protect email addresses from email harvesters (spambots) should consider the compatibility with those assistive tools (e.g. Windows Light, JAWS) for the visually impaired.

51. Tips and examples are available at the OGCIO website at http://www.ogcio.gov.hk/eng/knowledge/eaccess_tips.html. The tips will be updated continuously with new information and techniques.

52. Various tools can be used to validate the compliance of a website. A list of tools and details of their usage can be found at the World Wide Web Consortium (W3C) website <http://www.w3.org/WAI/ER/existingtools.html>. Although these validators are useful tools for checking accessibility, they cannot guarantee full accessibility as some of the requirements cannot be verified automatically, e.g. the colour contrast, line spacing, the meaningfulness of the text description, etc. Hence user checking is still required after initial checking by these tools.

53. One of the tools, W3C Markup Validation Service, (<http://validator.w3.org>) can be used to perform checking against the W3C guidelines and checkpoints. Bobby is a tool for web developers and the online version is a free service that measures accessibility of single web pages using the guidelines established by the W3C. It can identify the required changes to the pages to enable users with disabilities to better access the web pages. For example, a visually-impaired user will be aided by the text

description on a graphic display, and a hard-of-hearing user will be aided by a written transcript of the sound file on a web page. Bobby will recommend that these features be added if they do not already exist.

54. Many people with disabilities will use special assistive tools for web browsing, such as screen reader which reads text out loud using a speech synthesiser for blind users. The suggestions made by W3C Markup Validation Service will help developers add information to a web page which will make these special tools work more effectively.

55. For ease of checking, users could target to resolve all errors and user checks of up to priority 2 level suggested in the W3C guidelines and crosscheck the flagged errors against these guidelines.

56. More information on helping those with disabilities is available at <http://www.webaim.org> and <http://www.w3.org/WAI>. Further information on web accessibility checking and repairing tools can also be found at <http://webaim.org/products/>.

(E) Labelling of Government Websites

57. In order to minimise the exposure of young people and children to offensive materials on the Internet, the Government and the Hong Kong Internet Service Providers Association jointly launched the Internet Content Rating System (“ICRS”) Project in June 2003. Bureaux/departments are encouraged to participate in the ICRS Project by labelling their websites. For details, please visit <http://www.tela.gov.hk/icrs/eng/index.html>.

VIII. Presentation

58. The presentation of a website includes the site design, the use of different content formats and the assurance of site visibility. The appropriate use of technologies also plays a critical role in the presentation of web pages. Consistent website design through branding and navigation and site visibility should be ensured. Specific notes in producing and developing websites are provided in section IX.

(A) Common Look and Feel for Government Websites

59. In order to project the online brand image of the HKSARG, to improve the navigability and usability of Government websites and to provide a consistent and user-friendly experience to web users, the Government announced in March 2003 the adoption of Common Look and Feel (“CLF”) for Government websites.

(B) Ensuring Site Visibility to Potential Users

60. A website needs to be visible to potential end users in order to be successful. Given the exponential growth in the number of websites and the diversity of potential users, techniques to ensure site visibility should be employed. Internally, the site should be configured to maximise its exposure in popular search engines. This requires firstly the proper choice of meta data keywords, and secondly, regular registration with the search engines.

1. Using meta data to assist search engines registration

61. The most common method for users to find websites is through popular search engines. These search engines operate on the principle of keyword search where the user enters a keyword and the search engine returns web pages related to the keyword entered. To ensure that the site is returned as one of the top listings in the search results, a descriptive title and meta tags of “descriptions” and “keywords” containing the keywords that users commonly search should be defined.

62. To ensure the accuracy of the update date of the web page when indexed by search engines, meta tags of “date” can be added:

```
<meta name="date" content="TIME_SYNTAX">
```

where TIME_SYNTAX is <DATE>T<TIME>+<TIMEZONE>
format is CCYY-MM-DDThh:mm:ss+mm:ss

This is especially useful when the web page is dynamically generated by programmes.

2. Regular re-registration in prominent search engines

63. Registration can be conducted manually by visiting the individual search portal sites and submitting an online registration form. Chinese web pages should be submitted to Chinese-based search engines.

64. Each web page should have a descriptive and accurate page title to facilitate work of the search engine (see also para. 92 below).

3. Facilitate search engines indexing

65. Web page hyperlinks generated by JavaScripts should be avoided because such hyperlinks normally cannot be indexed by common search engines. As an alternative, webmasters may create a site map with static hyperlinks pointing to all pages in the website, and in the website of the site, add a static hyperlink to this site map.

IX. Specific Notes in Producing and Developing Websites

(A) Web Pages

1. Chinese

66. It is recommended that "charset" code should be included in all pages. In so doing, advanced browsers will automatically choose the character type and save Internet users the trouble in selecting "charset" from the menu bar of browsers. In addition, there will not be line wrapping problem for Chinese pages. The "charset" code should be put before the <title> tag to avoid any potential display problem if the title has Chinese characters. Except for special operational needs, Unicode (ISO/IEC 10646 or UTF-8) shall be adopted for new Chinese version websites or websites undergoing major revamp. The "charset" code can be added between <head> and </head>, or before <body> tags in the following way –

For traditional and simplified Chinese (ISO/IEC 10646 or Unicode) –

```
<META HTTP-EQUIV="Content-Type" CONTENT="text/html;charset=utf-8">
```

For English/Western-European Language –

```
<META HTTP-EQUIV="Content-Type" CONTENT="text/html;charset=iso-8859-1">
```

or

```
<META HTTP-EQUIV="Content-Type" CONTENT="text/html;charset=utf-8">
```

For charset of big 5 or Big5-HKSCS or gb2312 (#) –

```
<META HTTP-EQUIV="Content-Type" CONTENT="text/html;charset=big5">
```

or

```
<META HTTP-EQUIV="Content-Type"  
CONTENT="text/html;charset=Big5-HKSCS">
```

or

```
<META HTTP-EQUIV="Content-Type" CONTENT="text/html;charset=gb2312">
```

(#) With effect from 31 March 2008, all newly included HKSCS characters will NOT be assigned with Big-5 code point. Some Internet browsers may handle "Big5" or "Big5-HKSCS" encoded webpages differently. Hence, it is recommended to migrate existing "Big5" or "Big5-HKSCS" encoded webpages to ISO/IEC 10646 coding standard (i.e. Unicode or UTF-8).

ISO/IEC 10646 is the common Chinese language interface standard. Bureaux/departments are recommended to adopt ISO/IEC 10646, where applicable. Please refer to the “Guidelines for the Procurement of Products with Chinese Computing Requirement” for more details.

67. The Government has defined a set of user-defined Chinese characters (the Hong Kong Supplementary Character Set) and we have promulgated the use of this set of characters to the community. As a result, this set of characters is being widely used in Hong Kong. Bureaux/departments should use this set instead of defining supplementary characters themselves. The software files for the set are available for downloading at the OGCIO website (<http://www.ogcio.gov.hk/ccli/eng/hkscs/download.html> or <http://www.ogcio.gov.hk/ccli/unicode/hkscs/download.html>) which are usable for computers equipped with various software platforms. A link in the Government websites for downloading the Hong Kong Supplementary Character Set is recommended. The procedure for the application for inclusion of new characters from bureaux and departments has been documented in the ITSD Circular No. 14/2000 and the application form can be downloaded from the ITG Infostation.

2. Provision of online forms

68. The online forms must be current. Receipt of the form should be acknowledged if reply email addresses are provided. It is also desirable to make clear to the users the expected response time of the requested service.

3. Statements for collecting personal data online

69. There is increasing concern on the part of Internet users about the collection of their personal data without their knowledge when they are browsing Government websites. To address this concern and to secure users’ confidence when accessing Government websites, bureaux/departments should include in their websites a prominent hotlink to their Privacy Policy Statement whenever personal data are collected. The statements should explicitly state whether “cookies” will be used to collect personal data of users. Policies on how the personal data are handled, including the purposes for which such data will be used following collection; the types of organisations to whom such data may be disclosed, etc. should also be included. Details about Personal Information Collection Statement and the Privacy Policy Statement can be found in the website of the Privacy Commissioner’s Office at http://www.pcpd.org.hk/english/publications/files/pic_pps_e.pdf.

70. Even if the website does not collect personal data, Internet users may be concerned that the website could be collecting personally identifiable information about them without their knowledge. To allay such fears, the

website needs to publish a privacy policy statement that explicitly states that no such information is collected.

71. The privacy policy statement should be on a page separate from the “important notices” . Bureaux and departments can make reference to the privacy policy of GovHK (www.gov.hk/en/about/privacy.htm). The privacy policy statement should also include a security statement. For example, if an online service uses encryption for transmission of sensitive data, include information on this in the statements.

4. Links to other websites

72. To boost visits to Government websites, it is advisable to accept creation of links from other websites provided such links will not degrade the public image of bureaux/departments or involve commercial gains. As for building up links from Government websites to other websites, bureaux/departments should be discreet and consider whether it may wrongly imply a closer relation with certain organisations, especially those commercial ones. In addition, a conscious policy is needed as more requests from similar sites may arise. When linking to non-government websites, it is advisable to display a disclaimer notice before the links are entered or clarify in the ‘Important Notices’ section that the links are for users’ convenience and the information provided is the responsibility of that external source.

5. Links to GovHK and Brand Hong Kong logo

73. All Government websites can be accessed via GovHK and they should create reciprocal links to it. Bureaux/departments should also include a Brand Hong Kong logo with hyperlink to its websites (www.brandhk.gov.hk) to promote the visual identity of Hong Kong. The application guidelines of the Brand are available at the website. Furthermore, bureaux/departments can contact the GovHK Joint Management Team for promoting the hyperlinks of their new information.

6. Use of National and Regional Flags and Emblems

74. If National and Regional Flags and Emblems are used in the website design, please ensure compliance with the specifications set out in law. More details about the proper use of National and Regional Flags and Emblems are available at the National and Regional Flags and Emblems website at <http://www.protocol.gov.hk/flags/index.html>.

75. For the use of other flags and logos which have protocol implications, the Director of Protocol should be consulted.

7. Disclaimer

76. A disclaimer should contain the following general clauses and essential elements:

- (a) The information provided in the website is for reference only;
- (b) The Government gives no express or implied warranty to the accuracy of the information provided in the websites;
- (c) Should there be links from other websites to the Government website or if the present Government website will provide links to third parties' websites, the Government will not be responsible for the content of such websites;
- (d) The current website may contain information provided by other parties, and the Government has not approved nor endorsed the accuracy of such information;
- (e) Express denial of responsibility and liability for any loss or damage arising from contract, tort or any cause in connection with the Government website; and
- (f) Users/information seekers are encouraged to verify the authenticity of the information or seek independent advice before relying on the information.

77. For websites that use the on-line translation system to convert traditional Chinese character web pages to simplified Chinese character web pages, a disclaimer should be included in every Government website to remind users that the contents in the translated version are conversion from the traditional Chinese character version using a translation software, and users should verify the translated version by making reference to the published traditional Chinese character version. The 'simplified Chinese' button on Government web pages should be programmed to trigger the display of Disclaimer Statement. If bureaux/departments have doubt, they are advised to seek legal advice from the Department of Justice direct (see also para. 130 below).

8. Security Statement

78. The purpose of the security statement is to alert the general public of the risk involved when interacting with the Government web pages and to inform them that transactions made or messages sent over Internet cannot be guaranteed to be completely secure. The following statement is an example:

“You acknowledge and agree that the Government shall not be responsible in any manner for direct, indirect, special or consequential losses or damages howsoever arising out of the use of this website. The Government does not guarantee that any messages sent over the Internet will be completely secure. The Government does not accept any responsibility for any damages incurred by you if you send a message to us, or if the Government sends a message to you at your request, over the Internet. Communications over the Internet may be subject to interruption, delayed transmission due to Internet traffic or incorrect data transmission due to the public nature of the Internet or otherwise.”

79. The security statement may also cover other issues that may arise from delivery, receipt or use of the message, information and data. For example, measures to ensure the security and confidentiality of data collected online; use of utility / software to monitor the network traffic; the protection of intellectual property rights; issues related to circulation of unsolicited publicity or advertising materials; propagation of computer worms and viruses; sending harassing, obscene, indecent, offensive or threatening electronic mail; forgery (or attempted forgery) of electronic mail messages and the placement, transmission or storage of any defamatory materials. In this connection, bureaux/departments are advised to seek the relevant professional advice accordingly.

9. Chat room and discussion groups

80. Although the provision of chat room and discussion groups may invite constructive ideas and create open discussion atmosphere among members of the public, it could also become a medium for the dissemination of obscene and indecent messages, foul words or even libellous statements. Such objectionable materials may be harmful to young users. Although bureaux and departments could filter out a list of objectionable wordings, it is by no means exhaustive. It is the responsibility of bureaux and departments to monitor their chat rooms and discussion groups very closely to prevent the dissemination of any objectionable materials in their websites. It is not advisable to leave the chat room and discussion groups unattended. The rules for posting should be clearly stated and there must be arrangements to delete postings which contravene the rules promptly. Before providing chat service in the websites, bureaux/departments should therefore balance the benefits that it can bring against the possible negative impact on the management of the websites.

10. Selecting contractors

81. Bureaux/departments may consider setting up a selection panel for

choosing a suitable contractor for designing websites. The panel should draw up a marking scheme to select the contractor that is likely able to produce web pages at a reasonable production cost and of required quality. The selection criteria should include design concepts to meet the requirements, relevant experience in designing websites and dedicated production team for the project. Generally speaking, bureaux/departments should:

- (a) Prepare invitation brief that clearly states services required;
- (b) Invite prospective contractors to present their design ideas and show relevant web pages before the selection panel; and
- (c) Conduct thorough discussion at the panel according to the marking scheme.

The selection should follow procedures in the procurement of services, and assistance from Supplies Officers would be useful. Bureaux/departments may select contractors under the Standing Offer Agreements for Quality Professional Services (SOA-QPS). Details of the scheme including sample tender document and assignment brief are available at CCGO.

82. The selected contractors should observe the “Revised Government IT Security Policy and Guidelines” promulgated vide OGCIO Circular No. 3/2006. They should ensure all information and web contents are well protected and will not be disclosed to unauthorised persons. This may include, but is not limited to, the control of the development and testing environment that no unauthorised person can get access to the contents, and that such testing contents and all related information will not be posted to some websites or file servers that can be publicly accessed.

(B) Design

1. Graphics

83. Careful use of graphics is important in website design. File size of graphics needs to be small enough for fast downloading without sacrificing the quality. While few browsers lack the ability to handle graphics, some users for functional purposes switch this feature off. Webmasters can try the downloading time with an ordinary modem to find out the speed which users to the site will experience. It will also be useful to include a description of the image (alt=" ") to keep users informed of what to expect while the graphics are being downloaded and to decide whether such graphics are relevant. Heavy graphics are quite common at the entry pages. Providing a text button going directly to the site map at the top left hand corner of the entry page would enable users to choose to enter the site and not to wait for the

download of all the graphics. To facilitate those with limited finger movement in using the mouse, the size of the button should not be too small.

2. Clickable pictures/image maps

84. Clickable pictures / image maps create an entertaining variation and can provide a lively and attractive index. But it is time-consuming to download such maps. It would be a good idea to include also a text-only index. Some of our users are frequent users and they are more interested in getting information quickly than in admiring the visual appearance of the page.

3. Backgrounds

85. Backgrounds are acceptable so long as they do not delay downloading time or cause difficulties in reading. Text should avoid overlapping with graphics. A white background is always an alternative.

4. Pictures

86. For pages carrying abundant photographs, we should consider starting a picture gallery specified by links with thumbnail photos. Please note that:

- (a) The thumbnails are themselves graphics and if large or numerous will take some time to download;
- (b) There is a massive loss of details in thumbnails. This technique should only be used if a rough idea of the picture content is sufficient; and
- (c) An alternative method is to provide a list of text descriptions of the pictures with clickable links to the pictures. In this case, it would be preferable to indicate the file size of each picture.

5. Animation

87. This is a useful feature to liven up a page but designers should bear in mind that some animated graphics require long downloading time. Designers should strike a balance between attractiveness of web pages and the downloading time required as well as accessibility by the visually-impaired. Animation tools that create lightweight files should be used. Animated GIF and Flash are popular formats that can serve this purpose.

6. Audio-visual materials

88. Generally audio-visual materials have to be downloaded as a file and then played back by a media player in the recipient's computer. Some media formats such as Quick Time, Real Media and Windows Media support 'streaming' feature which are highly compressed and can reduce the downloading time.

7. Multimedia effects

89. Designers who take an interest in their work will find the technical literature full of exciting new effects which may be used in the web pages. Many of these are quite demanding in terms of browser capability, download speed or software. Designers should be encouraged to concentrate on the information which the page needs to convey, and pick the technology that best serves the purpose.

90. While the use of technology is to be carefully balanced, emerging technologies can help deliver new types of contents and services. For example, with the wider use of broadband transmission in households, more multimedia contents can be delivered e.g. web broadcasting, real time playing of video on the web, etc.

8. Title for each web page

91. A title should be given in the HTML code <title> at the top of each web page. This will appear at the top when viewed in a browser and facilitate work of the search engine (see also paras. 60 to 65 above).

9. Use of Cascading Style Sheets (CSS)

92. The presentation of web pages such as fonts, colours, spacing etc. should best be managed by a cascading style sheet. More information can be found at <http://www.w3.org/Style/CSS/>.

(C) Technical Aspects

1. Uploading files onto the Central Internet Gateway (CIG)

93. Following the setting up of CIG in early 2000, there are better protected access channels for uploading files onto CIG web server: using access token through SSL-VPN via the Internet or Government Network (GNET) connection for web content upload and maintenance through the Web Content Management System.

2. Test and production environments

94. Test and production environments are maintained for each website in

the CIG. Web pages should be uploaded to the testing environment for preview before uploading to the production environment. There should not be any interface or dependencies between the production site and the test site. No reference to the test site should be made in the production environment. Bureaux/departments are accountable for the web contents and integrity of their production and test sites.

3. Account/password control

95. All webmasters must possess an access token in order to login CIG's web hosting environment. Respective webmasters will assume full responsibility for the safe-keeping and administration of the token issued by CIG System. As the access token plays an important role in enforcement of the security and integrity of Government's Internet web content, webmasters should handle the token with great care. The token will only authenticate webmasters for access to the CIG web hosting network, user name and password will still be required to logon Web Content Management System for web content upload and maintenance. In cases where the website is not hosted under CIG, the responsible bureau/department should ensure that sufficient security measures are in place. Reference information is available in the documents promulgated vide OGCIO Circular No. 3/2006 on "Revised Government IT Security Policy and Guidelines". Passwords released to service providers should be modified right after the development is completed.

96. Passwords should be changed periodically and kept secure. They should only be made known to personnel on need basis but not hardcoded in any applications, programmes or scripts. Control of accounts/passwords should not be limited to CIG login accounts only. Accounts for accessing ISPs, emails or other Internet services should be controlled.

4. Browsers

97. In theory, Government websites should be tested on different browsers to see the effect. In practice, testing them on Internet Explorer, Firefox and Safari will suffice. As most users do not upgrade their browsers regularly, it will be useful to try out a page with the more popular and low-end versions. If a PDA version of the websites is provided, it should also be tested on a web browser on a PDA or a mobile Internet device.

98. As quite a number of Chinese users use Chinese windows, it will be useful to produce English pages in the Chinese windows environment to avoid missing apostrophes and quotation marks.

99. Users should be reminded to use the appropriate version of browsers to view the pages. If the page requires a recent version, a link to the supplier may be provided.

5. Screen resolution

100. The lowest acceptable screen resolution should be determined at the onset before development stage. The common screen resolutions are 800 x 600 pixels and 1024 x 768 pixels. Tests should be conducted for websites viewed under different resolution to avoid an improper page layout under certain screen resolution. It may be useful if the best resolution for browsing a website is stated in the index page or under “Important Notices”.

6. Security

101. Webmasters should heed the importance of proper security measures for Government websites and ensure that the relevant Government IT security policy and guidelines are being observed, especially when collection or transmission of personal or sensitive information (see also para. 69 above) is involved. In this regard, the documents promulgated vide OGCIO Circular No. 3/2006 on “Revised Government IT Security Policy and Guidelines” should be referred to or technical advice from OGCIO or advice from relevant authorities should be sought. Please note that:

- (a) Bureau/department should scan the web content for virus and malicious codes before uploading to the websites;
- (b) Bureau/department should check their web applications (e.g. JavaScript, CGI programs, etc.) to ensure no application vulnerabilities (e.g. SQL injection, cross-site scripting);
- (c) Bureau/department should review their web contents and applications periodically for newly discovered malicious codes and vulnerabilities; and
- (d) The process of content upload to the production site should be well controlled by authorised persons only.

102. An information security incident handling procedure should also be developed and communicated to all relevant parties for the detection and handling of information security incidents. Bureaux/departments should also note and observe the requirement of reporting Government information security incidents to the Government Information Security Incident Response Office (“GIRO”). Details on the above can be found in the Information Security Incident Handling Guidelines (G54).

7. Markup validation

103. Although the current common Web browsers have high tolerance to

syntax errors for Web contents written using markup languages, such as HTML or XHTML, it is desirable that Government websites should be syntactically correct according to the specifications published by the W3C. This could better assure the compatibility and interoperability for current as well as future versions of Web browsers when accessing such contents. There are free online validation tools available such as the W3C Markup Validation Service at <http://validator.w3.org>.

(D) Daily Management

1. Visitor records

104. Many websites record the number of visitors. This is not really necessary for Government websites because a separate set of figures, kept by the OGCIO, is available on-line from the central Visitors Statistics System. Designers considering the inclusion of a visitor counter should bear in mind that this would add considerably to the loading time of the page in question.

2. Email box

105. For bureaux/departments which have adopted the “CLF” design, the email address should be placed at the welcome page and the content page. For others that have not adopted CLF, the email address should be placed at the index page unless a page on Comments and Feedback is available. A form-type or mail-to-type interface should be incorporated. Bureaux/departments with technically complex webpages may wish to provide different email addresses for email from the public seeking information, and communication of a technical nature intended for their webmasters. The full email addresses should be explicitly stated to facilitate users who wish to send messages via their own email application at a later time. Bureaux/departments should implement measures to prevent harvesting of email addresses by spammers, e.g. use JavaScript to compose the email addresses for display and invoking the mail-to feature, while facilitating the visual-impaired people to read the email addresses.

106. Bureaux/departments should have an email box to receive opinions or complaints and the email box should be checked frequently. Bureaux/departments should alert Internet users to the fact that the emails they send are vulnerable to third-party interception. They should also inform Internet users for the mail address and fax number so that Internet users may choose to send messages by post or by fax. Letters sent by email should carry the same weight as those sent by mail or by fax. Complaints through email should therefore be treated in the same manner as those received from other channels.

107. It is important that bureaux/departments should respond to emails expeditiously. Bureaux/departments are encouraged to turn on the auto-reply function in emails accounts to acknowledge the receipt of message if manual reply is not possible within a short period. Logistic arrangements should be put in place to ensure that email boxes are checked regularly and the mails be directed to the appropriate subject officers for action promptly. Having regard to its fast speed in transmission and the expectation of the sender for a quick response, bureaux/departments should assign an officer of appropriate ranking to check the email box(es) at least twice daily i.e. in the morning and in the afternoon. The email box(es) should be checked and dealt with in the first instance on the following working day after public or long holidays. If incomprehensible emails are received, bureaux/departments should contact the sender for clarification. Bureaux/departments should prevent their mailboxes from being full and should consider not to apply anti-spamming measures to the email accounts for receiving public emails. Bureaux/departments should consider forwarding the emails to internal mail systems for storage and processing.

108. Email accounts should be in the official form of xxxxx@(bureau/department).gov.hk.

109. Commencing from May 2000, the Hongkong Post has started to provide a new type of digital certificate: e-Cert (Encipherment). An external party, using the webmaster's e-Cert (Encipherment) certificate, can send encrypted email to the webmaster. Webmasters of bureaux/departments who are required to handle restricted emails should apply for this digital certificate. As this e-Cert is not meant for signing by a specific officer and cannot be identified with a particular officer, the webmaster has the option of letting responsible staff to decrypt the mail. In case the digital signature of a specific staff is required, the bureau/department should consider the use of the e-Cert (Organisational) which carries the identity of the staff sending the email. If such a facility is provided, the availability of and the procedure of using such facility should be stated in the website.

110. With the enactment of the Electronic Transactions Ordinance, if bureaux/departments need to receive electronic records required by rules of the law, the Guide issued in ITSD Circular No. 9/2000 and the format, manner and procedure for the submission of electronic information should be observed. Reference can also be found at <http://www.ogcio.gov.hk/eng/eto/esubmission.html>.

3. Recoverability of web contents

111. Bureaux/departments should keep a softcopy of their web contents so

that recovery of the web pages can be swiftly made in case of emergency.

(E) Useful Links

112. Please click the following websites, as appropriate, for guidelines on producing and developing websites:

- (i) Guidelines for use of BrandHK
(<http://www.brandhk.gov.hk/brandhk/en/guidelines.htm>)
- (ii) Flags and Emblems
(<http://www.protocol.gov.hk/flags>)
- (iii) Web Accessibility
(http://www.ogcio.gov.hk/eng/knowledge/eaccess_main.html)

X. Management of Government Websites

(A) Composition of the Working Group

113. Well-organised management of a website is one important factor contributing to its success. A working group can be set up within a bureau/department to contribute ideas on the content and to monitor the updating of the website. The following composition is suggested:

- (a) A directorate officer to chair the group;
- (b) Representatives from various divisions of a bureau/department to put forward ideas on what should be posted on the websites and to keep track of the need to upload the latest information from their respective divisions;
- (c) A designated webmaster to collect information from various divisions for uploading onto the Internet, and to remind relevant officers of the need to regularly update the information. The webmaster should take follow up actions on updated information periodically sent by the CIG Support Team via emails about system upgrade, maintenance, enhancement and other Internet related activities. The webmaster can consider providing 7x24 contact to CIG Support Team for handling urgent situation such as outage or defacement of website. The webmaster should also act as the liaison officer with the IRC;
- (d) A support team to upload the information. Uploading can be handled by contractors or staff members. It would be useful for bureaux/departments to train at least two staff members to handle basic uploading work so they can take care of simple but urgent jobs. Bureaux/departments may wish to consider keeping the project management, content quality management and authoring roles in-house with the remaining roles such as creative design and application of information technology outsourced.

(B) Duties of the Working Group

114. The working group should meet regularly to deal with the following:

- (a) Identifying the target users;
- (b) Assessing the overall effectiveness of the websites;
- (c) Considering new interactive service and information;

- (d) Collecting and analysing users' feedback;
- (e) Ensuring timely updating; and
- (f) Developing an overall identity and specific themes and topics.

115. The development and management of a website does not follow the traditional sequential process with a defined project start and end point. Rather, due to the dynamic nature of the medium, once the contents are posted on a site, direct users' feedback combined with traffic statistics profiles can provide valuable insights that influence the choice and presentation of future content. In response, enhancements in the form of new, updated or modified content may be adopted and the cycle continues.

(C) Responding to Users' Feedback and Analysing Traffic Information

116. Users' feedback and traffic information provide site management with the information required for maintaining user relationship, ensuring that the site remains client-centric and technically efficient, and can support management decisions. This process involves three stages:

- (a) Data are captured in the form of direct email feedback, survey results (e.g. online questionnaire) or traffic reports;
- (b) Data are analysed to reveal trends and to determine the appropriate response; and
- (c) Direct response sent to users and, where appropriate, adjustments to the website content, presentation and management are made.

117. A dedicated officer should be appointed to co-ordinate response to users' queries. Frequently asked questions (FAQ) and their answers should also be posted to minimise repeated enquiries on similar issues.

118. Capturing traffic statistics is essential for maintaining an up-to-date site that continually meets the needs of the users. The collection and analysis of these statistics would, among others, help:

- (a) Identify the most frequently accessed files and/or pages for consideration of additional information on the subject(s); and
- (b) Update users' profiles for drawing up more client-centric content.

119. For Government sites residing in the CIG server, a variety of statistics compiled on a monthly basis are available at <http://webstat.cis.gov.hk>.

Bureaux/departments may find valuable information there for improvements to their websites.

(D) Training

120. The Civil Service Training and Development Institute of the Civil Service Bureau arranges training courses for officers, especially webmasters, to acquaint themselves with the Internet and basic skills in updating websites. The Internet Technology User-Managers Groups also arrange informative seminars.

XI. Copyright Issues on the Internet

[Sections A and B below are extracts from the Intellectual Property Department's Handbook – "Managing Intellectual Property in the Government".]

(A) Guarding against Infringing the Copyright of Others

121. Works on the Internet can be protected by copyright. Normally, copyright works may not be copied without permission (even into computer memory). However, if a transient and incidental copy is made and such copying is technically required for the viewing of the work, it would not be an infringement. That means, browsing on the Internet is permitted in our copyright law.

122. Making available copies of a copyright work to the public without the consent of the copyright owner is not allowed. 'Copies' does not only mean 'hard copies': making copies available to the public also includes doing so through the Internet.

123. Therefore, departments that place any materials on web pages (including text, graphics, photographs or sounds) without the permission of the copyright owner are infringing copyright.

124. It could arguably be a copyright infringement to place a hypertext link to another website (i.e. someone else's copyright work) without permission. In the circumstances, it is recommended that prior permission should be sought from the webmaster of another site before making a hypertext link to it.

125. Only use other people's trademarks or logos with permission. Apart from a slight possibility that doing so would infringe the trademark right, there is also a significant chance of infringing copyright in the mark or the logo.

126. Do not limit your concern for intellectual property rights to Hong Kong law: the Internet does not recognise geographical boundaries. The Hong Kong Special Administrative Region Government may be found liable for infringement under foreign law in any country in which your material is available through the Internet.

(B) Protecting Your Copyright on the Internet

127. Copyright can be protected in Hong Kong and virtually the whole of the rest of the world without need for registration, and placing a copyright notice is not obligatory. The latter may help, however, to make it clear that an owner does want to enforce his copyright. If you place a copyright notice, you should include the word 'Copyright', the name of the right-owner, the year and

the place where the work was first made public. You may put in additional words to make the use of your copyright work conditional (e.g. “This page may be copied to facilitate public consultation purposes only, and may not be included as part of any other publication.” Or “This page may be copied or included in another publication, provided that the following notice is included: ‘Copied from the Hong Kong SAR Government WWW Page at ...’.”) But make your notices simple and easy to understand.

128. On a practical level, providers of materials on the Internet should be aware that enforcement of Government’s rights outside Hong Kong will be difficult, if not impossible in many cases. Starting from this point, some bureaux/departments may consider it worthwhile (and gain some goodwill) to explicitly disclaim copyright and let people copy the work as they wish. In any case, assume that even if you wish to enforce, it will be hard to do so cost-effectively outside Hong Kong, so please don’t put Government’s commercially-valuable works on the websites.

129. Never place material on the Internet which may form the potential basis for a patent for an invention or an application for registered design. Publishing details on the web will prejudice any chance of gaining a patent or registering the design.

(C) Copyright Issue in the Conversion of Traditional Chinese Character Version Content into Simplified Chinese Character Version

130. Bureaux/departments are reminded that even if they have the copyright owner’s permission to place materials on traditional Chinese character web pages, the permission obtained from the copyright owner does not necessarily cover the simplified Chinese character version of the materials converted by using conversion software. Bureaux/departments are reminded to obtain separate permission of the copyright owner for the adaptation or copy of the materials into simplified Chinese character version web pages.

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