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15 March 2006

Clerk to the Finance Committee
(Attn: Mrs. Mary Tang)
Legislative Council
Legislative Council Building
8 Jackson Road
Central
Hong Kong

Dear Mrs. Tang,

**Finance Committee
Follow-up to Meeting on 3 March 2006**

Thank you for your letter dated 6 March 2006. I write to provide the supplementary information requested by Members of the Finance Committee at the meeting on 3 March 2006.

(a) Measures to Ensure Accessibility of the One-stop Access Portal (OSP)

2. In designing the OSP, the Administration will observe the "Guidelines on Dissemination of Information through Government Homepages" published by the Home Affairs Bureau (HAB guidelines) and those promulgated by the World Wide Web Consortium ("W3C" guidelines) to ensure that the portal is easily accessible by people with physical impairment.

3. The HAB Guidelines provide government bureaux and departments (B/Ds) with practical advice on the development, maintenance and management of government websites. Section VII of the guidelines provides guidance and tips on homepage design to ensure that online government information and services are easily accessible by the visually impaired (e.g. using text-only version, providing text descriptions for graphics and multimedia content). The guidelines are updated continuously and the latest edition issued in September 2005 can be found on the Digital 21 Strategy website (<http://www.info.gov.hk/digital21/>). An extract of Section VII is enclosed at Annex for easy reference.

4. To validate the compliance of the OSP with the W3C guidelines, we will conduct user checking before the launch of the OSP and make use of tools such as Bobby (<http://www.cast.org/bobby>) to measure the accessibility of the web pages. In addition, we will invite the relevant local associations (e.g. the Hong Kong Blind Union) to test use the OSP and suggest necessary improvements.

(b) Promotion of the OSP/Service Clusters

5. The Administration will, as an ongoing effort, organize publicity and promotional programmes locally and overseas to raise the awareness of the OSP and attract target customers to use our e-government services. Prior to the official launch of the OSP in late 2006, users of the existing Government Information Centre (<http://www.info.gov.hk>), the IT industry and the relevant business sectors will be invited to preview the OSP and offer feedback and suggestions for improvements.

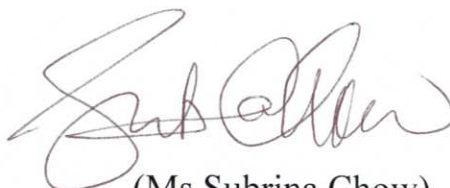
6. To tie in with the official launch of the OSP, we will publicize the OSP through the following channels:

- (i) promoting the OSP brand (e.g. brand name, logo and slogans) extensively through Announcements of Public Interest (APIs) and placing advertisements on popular online search portals, print and electronic media as well as at local and international exhibitions so as to reach potential customers in Hong Kong, the Mainland and overseas;
- (ii) organizing promotional campaigns with a view to building up a customer base for the OSP and increase the utilization of e-government services (e.g. educational games that encourage repeated visits or use of services, design or photo competitions, etc);

- (iii) collaborating with B/Ds to promote specific e-services to their target customer groups (e.g. job seekers, travelers who need e-passports, taxpayers, driving licence holders, etc.); and
- (iv) leveraging on the promotional programmes and publicity materials of other B/Ds and non-government organisations (e.g. InvestHK, Hong Kong Economic and Trade Offices, Hong Kong Tourism Board, Hong Kong Trade Development Council) to increase the international exposure of our OSP.

7. Since the OSP will be the single access portal for all e-government services upon expiry of the ESD contract in mid-January 2008, major publicity and promotional efforts will be made in 2007-08 to ensure that the existing and potential users of e-government services, both within and outside Hong Kong, are aware of the launch of the OSP.

Yours sincerely,

A handwritten signature in dark ink, appearing to read 'Subrina Chow', with a stylized, flowing script.

(Ms Subrina Chow)

for Government Chief Information Officer

Extract from Guidelines on Dissemination of Information through Government Homepages**VII. Ensuring Content Accessibility**

34. 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 detract from the usefulness of the site for users who are unable to access the variety of formats.

35. 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 either during the development of the web page together with the English and traditional Chinese pages, or as an alternative, be on-line converted from the traditional Chinese pages using a server-based online translation system. Detailed guidelines for using the on-line conversion system can be found in CCGO (see also paras. 74 and 123 below).

36. The target users may be using older versions of Internet browsers, have visual impairment that requires the use of a screen reader or hearing impairment that invalidates 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. Ensuring accessibility of web content covers five areas -

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

(A) Using New Technologies

37. 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.

38. To ensure accessibility -

- (a) Homepages 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 the animation software effect is considered to be necessary, accessibility features of the animation software 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 homepage in case the users do not wish to wait for the playing of the entire animation programme. Design guidelines for accessible flash can be found at <http://www.macromedia.com/macromedia/accessibility/features/flash/>.

(B) Providing Documents for Downloading

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

40. 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. 49(p) below).

41. The PDF files should be converted to Fast Web View PDF files – that is, optimize them – before uploading them. This minimizes 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.

42. 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

43. 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 channels where interactive channels are not available (see also paras. 12 and 13 above).

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

44. Internet users with visual impairment usually read homepages 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.

45. 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. 49 below for details).

46. The Hong Kong Blind Union is of the view that an 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 subsequent maintenance and updating are major problems in adopting such an approach.

47. According to the Hong Kong Blind Union, the second approach, i.e. para. 45(b) above, is sufficient for the visually-impaired and can meet the World Wide Web Consortium (“W3C”) requirement. Our advice is that in the long-term, this approach appears to be more cost-effective 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 appearing in two versions due to updating fault.

48. 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 this approach may not be significant. Bureaux/departments may adopt the approach that best suit the objectives and target users of their websites.

49. 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, while the alternate text should be brief and concise, they 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. In cases where animation effect is considered to be absolutely necessary (e.g. advertisement banners), its content should be made accessible to screen readers by making available the

accessibility features in the animation software. 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 for a written transcript of the audio/video content should be provided alongside. If possible, a synchronized 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, e.g. 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, in comparing with normal characters, are not 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 homepage to facilitate language switching. Limitation in English screen reader is also the reason for placing this as the first link of the homepage.

(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 the 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 assists users to map subsequent read 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 Digital 21 website at http://www.digital21.gov.hk/eng/knowledge/access_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 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 will feel estranged with less updated 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.
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- (g) Avoid flickering and blinking contents.
 - (h) Avoid use of auto-refresh which may disrupt normal reading sequence of screen readers.
 - (i) Avoid background sounds which may distract user's focus on web page content. Most screen reader users rely on speech output to access 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.
 - (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. sitemap, 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 'Sitemap', 'Text-only version' should be put as the first links at the top left corner of the homepage.
- (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 Acrobat 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 foils.

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 portion of the text with the "text select" function in the Acrobat Reader, copy them onto a txt document and then check if the text is editable.

- (ii) Provide descriptive text for non-text elements.
 - (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 in comparison with other electronic forms such as PDF forms.
- (i) If certain users experience difficulties in completing the form by themselves, the form in (rtf) or (txt) format could be provided on an ‘as request’ basis and be returned electronically.
 - (ii) In designing layout of an online form, special care should be paid to the followings -
 - 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 the low-vision users who browse with magnifying devices that can only show a small portion of the screen at a time.
 - 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 around 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 them. Hence, the followings 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.

- (iv) An alternative non-scripting solution is provided wherever the scripting version is inaccessible.

50. Tips and examples are available at the Digital 21 website at http://www.digital21.gov.hk/eng/knowledge/access_main.html. The tips will be updated continuously with new information and techniques.

51. 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 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.

52. One of the tools, Bobby, (<http://www.cast.org/bobby>) 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 will 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 be added if they do not already exist.

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

54. 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.

55. More information concerning helping those with disabilities are 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

56. In order to minimize the exposure of young people and children to offensive materials on the Internet, the Government and the Hong Kong Internet Service Providers Association have 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 refer to the website of the Hong Kong Internet Service Providers Association at <http://www.icrs.hkispas.org.hk>.