

Office of the Government Chief Information Officer

# Web Accessibility Implementation

Digital Inclusion Division

4 December 2012



# Agenda

---

1. Web Template with Accessibility Features
2. Implement An Accessible Website
3. How to Start Building An Web Accessibility Website?
4. Web Accessibility Recognition Scheme and Benefits of Joining the Scheme

# Web Template with Accessibility Features

---

## Objective

- Provide templates and user guide for NGOs and public to adopt for developing an accessible website

## Download

- First Web Template with accessibility features and three color schemes to be launched in Dec 2012
- Other Web Templates to be launched in early 2013
- Available at [www.webforall.gov.hk](http://www.webforall.gov.hk)
- Advisory service after download : 2582 4606

# Key Features of the First Web Template

2. Provide User-initiated background audio

1. Provide "Skip To Content"

3. Allow text resize

4. Provide meaningful alt text for images

6. Provide keyboard accessible menu

5. Allow to play or pause the auto-scrolling latest news

7. Provide embedded Youtube video

8. Provide sufficient colour contrast

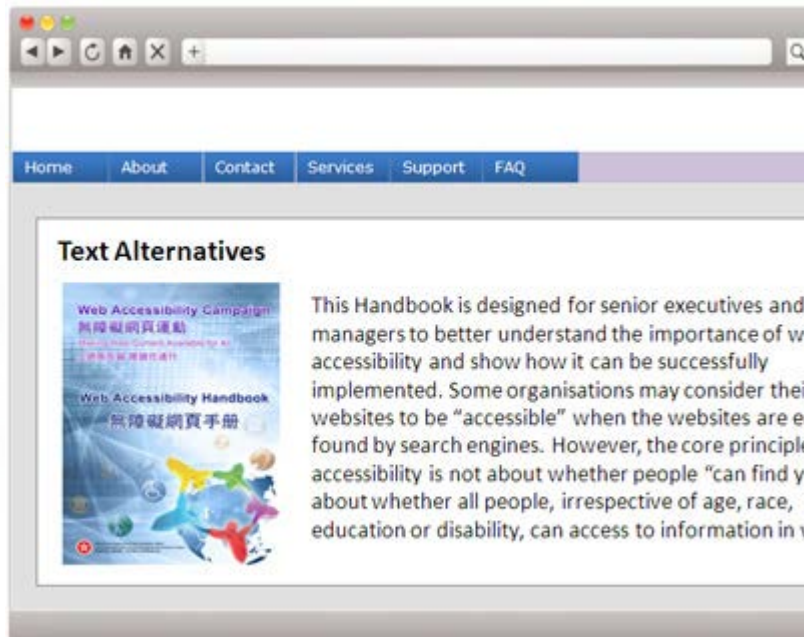




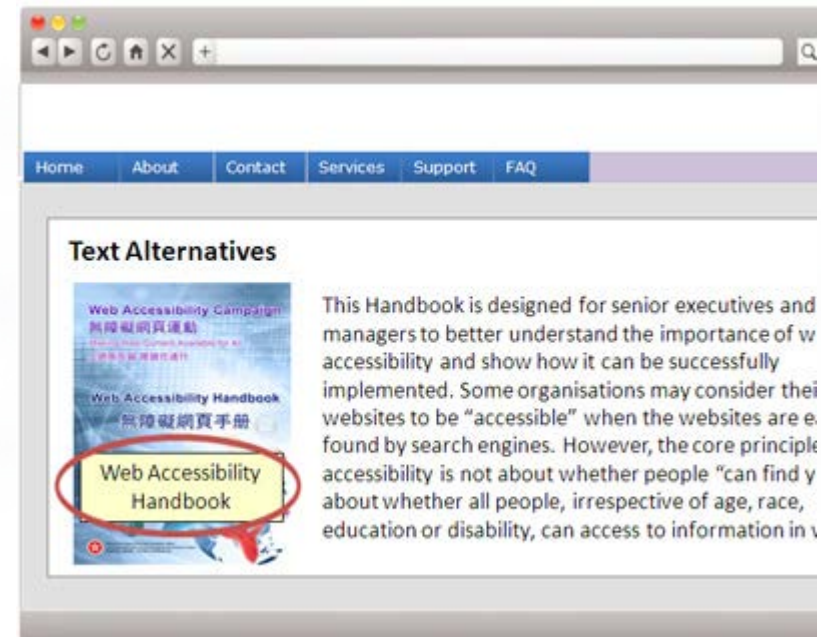
# Implement An Accessible Website - Meaningful Alternative Text Description

Reference :  
Judging criterion  
Silver 01

- A meaningful text description that can be read by the screen reader should be included



Screen reader cannot read the picture



A meaningful text description that can be read by the screen reader

# Implement An Accessible Website - Meaningful Alternative Text Description

---

## Coding Technique

- Make sure that the alt text conveys all of the important information relevant to its purpose, but don't burden users with excessively long alt text in HTML markup

```

```

- Null alt text should apply on -
  - Decorative images
  - Transparent and spacer images
  - Redundant images

```

```

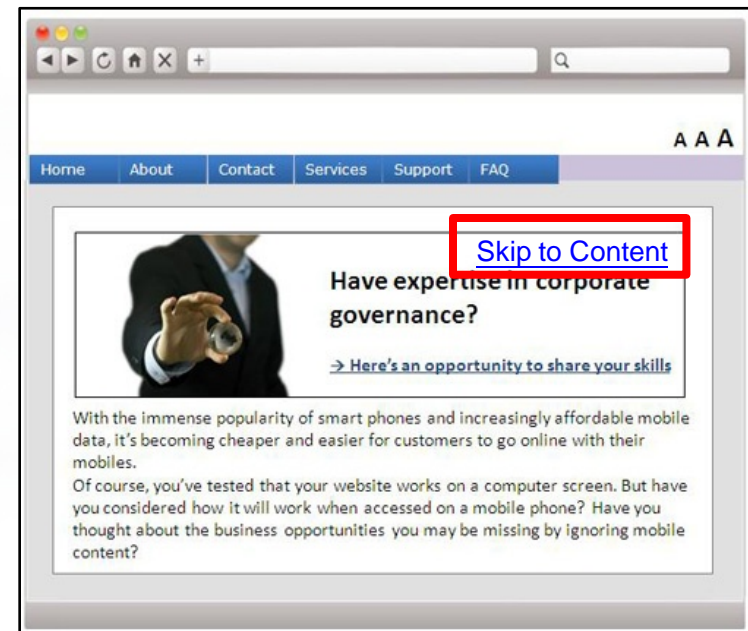
# Implement An Accessible Website - Flash/Animated Content

Reference :  
Judging criterion  
Silver 02

- Provide accessible Flash/Animated content or allow skip function



Flash content blocks the user from getting to main content



Include "Skip to Content" option allow user to skip Flash content

# Implement An Accessible Website - Flash /Animated Content

---

## Coding Technique

- Add **anchor tag** for “Skip to content” link before the HTML markup of the menus/sub-menus
- Specify the content location in HTML markup

```
<body>
<div id="skip" onclick= "cursor()" > <a href="#content_start" ></a> </div>
<!-- menu HTML markup -->
...
<!-- content HTML markup -->
<a href="#" id="content_start"></a>
...
...
</p>
</body>
```



# Implement An Accessible Website - Flash /Animated Content

---

## Coding Technique (Con't)

- Handle the cursor focus to the content in JavaScript

```
function cursor(){  
    var link = document.getElementById('content_start').focus();  
}
```

- Handle the style of the “Skip to Content” link in CSS

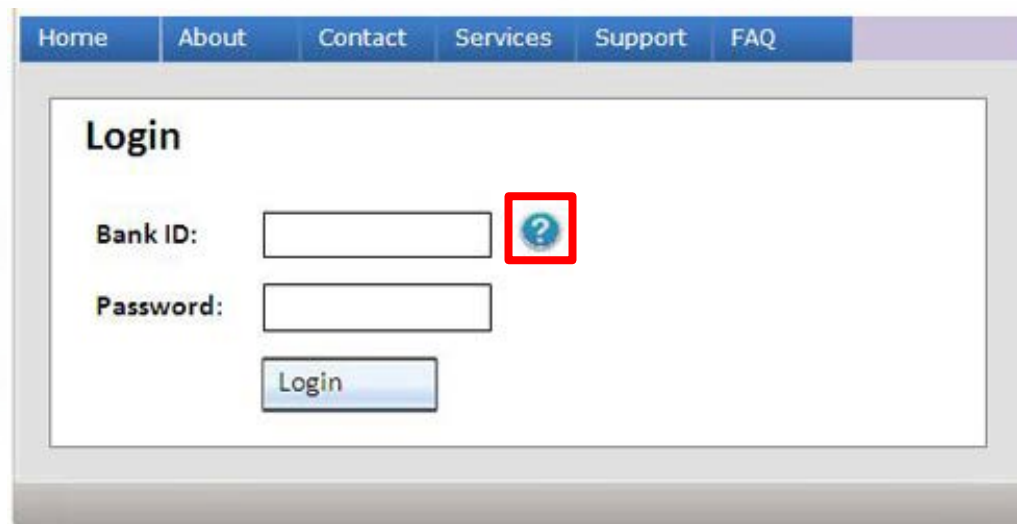
```
#skip a, #skip a:hover, #skip a:visited {  
position:absolute;  
left:0px;  
top:-500px;  
width:1px;  
height:1px;  
overflow:hidden;}
```

```
#skip a:active, #skip a:focus {  
position:static;  
width:auto;  
height:auto; }
```

# Implement An Accessible Website - Keyboard Interface

Reference :  
Judging criterion  
Silver 03

- All functionality of the content is operable through a keyboard interface without requiring specific timings for individual keystrokes



The image shows a screenshot of a web application's login page. At the top, there is a navigation menu with links for Home, About, Contact, Services, Support, and FAQ. Below the menu is a 'Login' section containing two input fields: 'Bank ID:' and 'Password:'. A 'Login' button is positioned below the password field. A red square highlights a question mark icon next to the 'Bank ID:' input field, indicating that this help function is not accessible via keyboard navigation.

People using a keyboard interface  
may not be able to navigate to the  
help function provided

# Implement An Accessible Website - Keyboard Interface

---

## Coding Technique

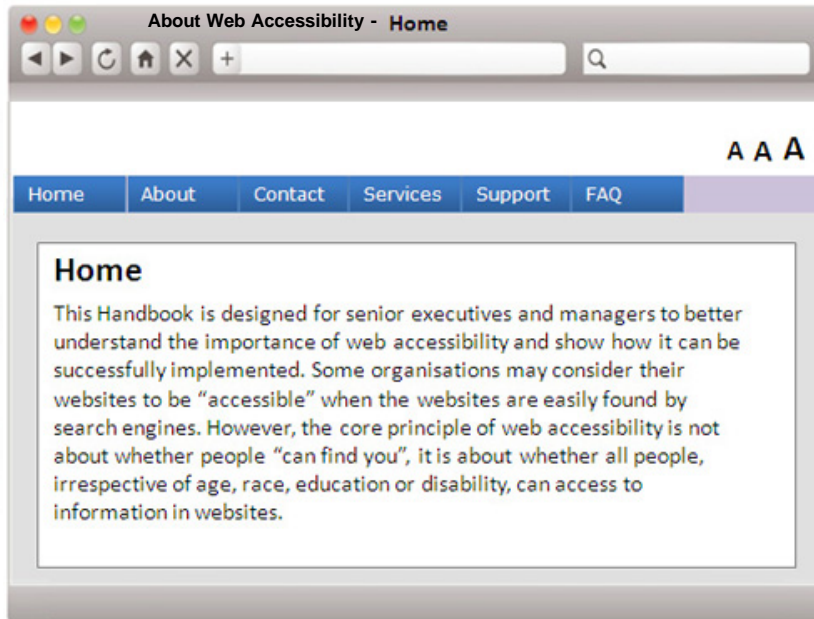
- Allow users to access all content and functions with a keyboard interface in HTML markup

```
<img src =“question.gif” alt=“Question” onClick=“openPop();”  
onkeypress =“openPop();” tabindex=“0” />
```

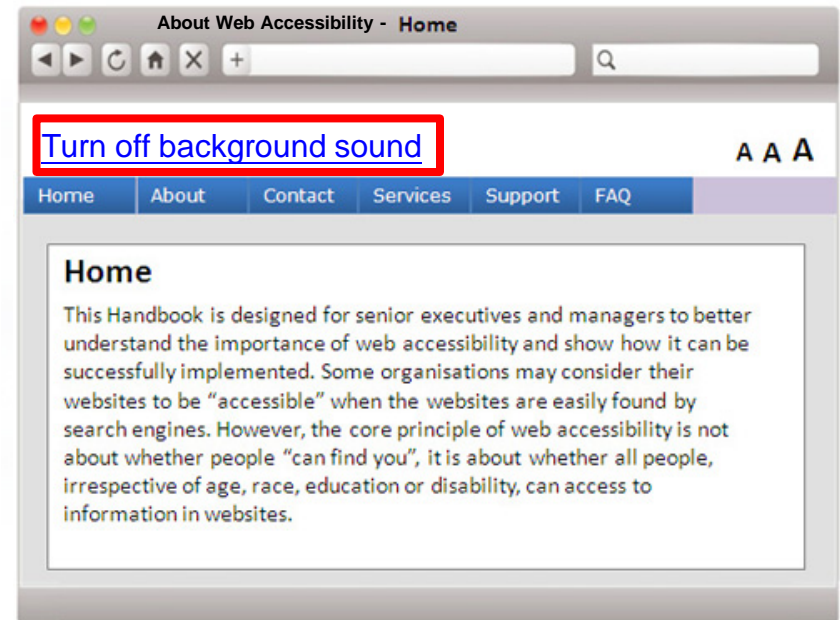
# Implement An Accessible Website - Background Sound

Reference :  
Judging criterion  
Silver 04

- Easy to turn off background sound or set as user-initiated only



The background sound will begin playing automatically in five seconds



Include a link to turn off the background sound at the beginning of the webpage



# Implement An Accessible Website – Background Sound

---

## Coding Technique

- Add buttons to play and stop the background sound in HTML markup

```
<input type="button" value="Turn On Background Sound"  
onclick="playSound();" />  
<input type="button" value="Turn Off Background Sound"  
onclick="stopSound();" />  
<bgsound src="music/nameofsong.mp3" loop="0" id="sound" />
```

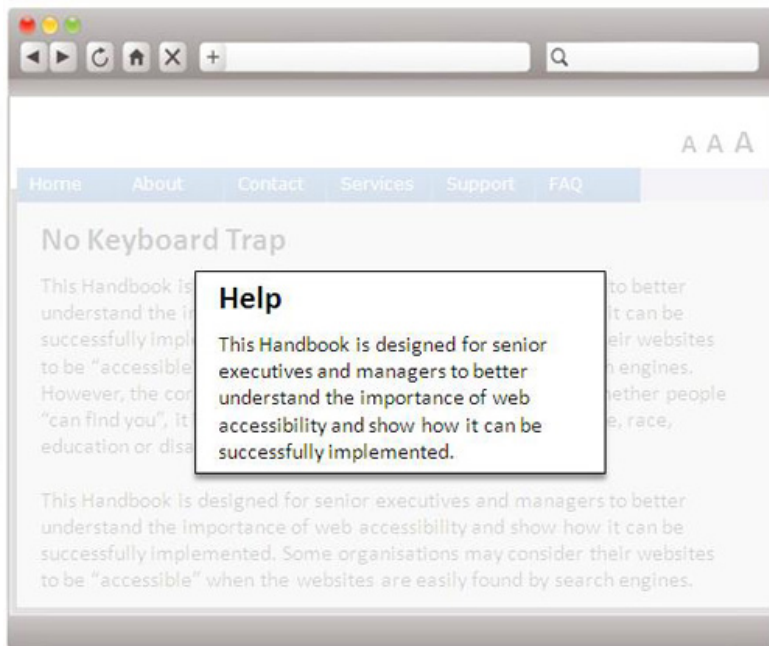
- Implement the functions by using JavaScript

```
function stopSound() {  
    document.getElementById("sound").src = "";  
}  
function playSound() {  
    document.getElementById("sound").src = "music/nameofsong.mp3";  
}
```

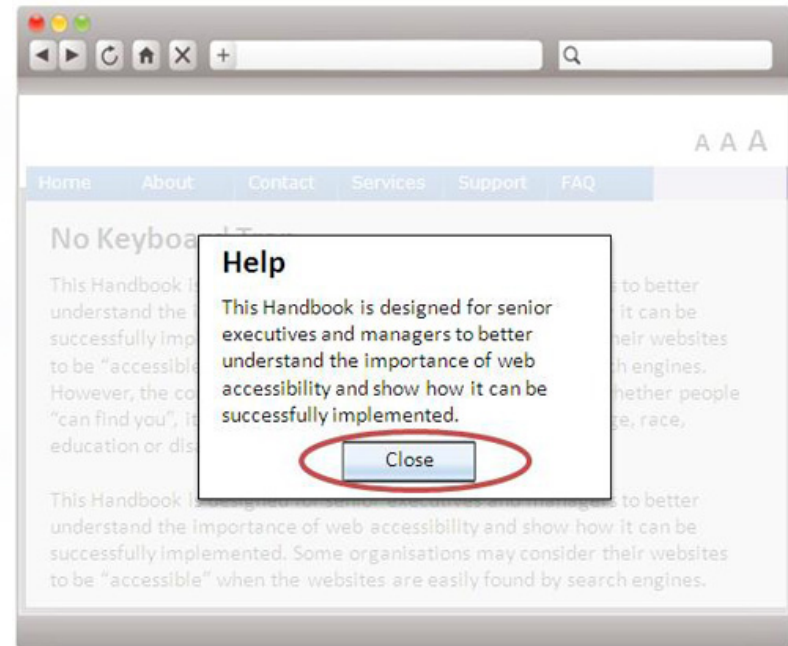
# Implement An Accessible Website – Popup Windows

Reference :  
Judging criterion  
Silver 05

- Ensure the keyboard interface can be used to control or dismiss dialogue boxes, popups or other windows



No ways to close the popup windows



Include a Close button to close the  
popup windows

# Implement An Accessible Website – Popup Windows

---

## Coding Technique

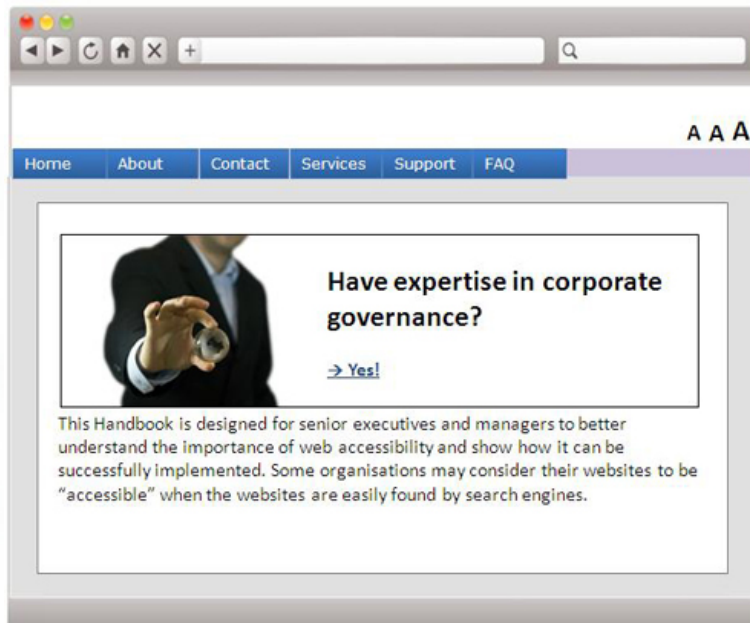
- Add a button to close the popup in HTML markup

```
<input type="button" value="Close" onclick="window.close();" />
```

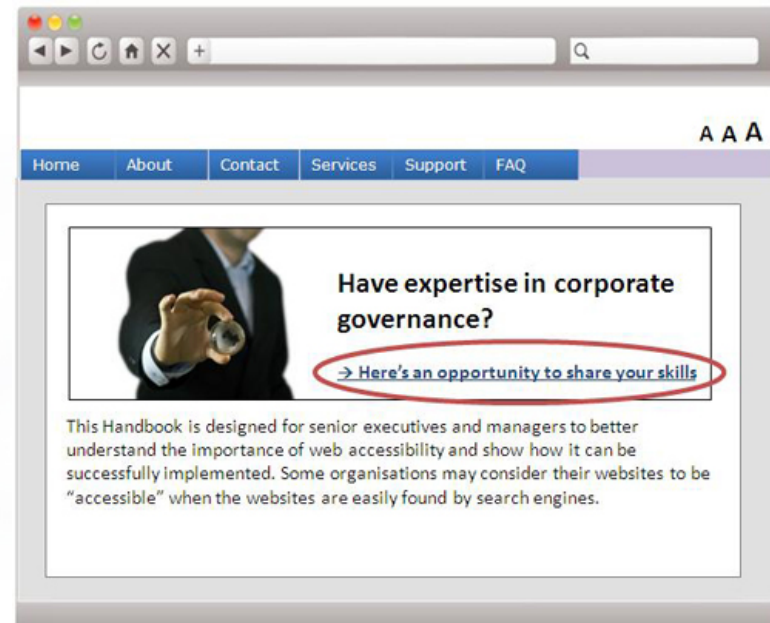
# Implement An Accessible Website – Links

Reference :  
Judging criterion  
Silver 06

- Provide clear and informative links for assistive tools



The link "Yes" is ambiguous and does not really convey much meaning



Link labels should be more descriptive and self-explanatory



# Implement An Accessible Website – Links

---

## Coding Technique

- Provide more descriptive and self-explanatory link labels in HTML markup

```
<a href="test.html" />Here's an opportunity to share your skills</a>
```

# Implement An Accessible Website – Headings/Labels

Reference :  
Judging criterion  
Silver 07

- Provide accurate and appropriate headings/labels

A screenshot of a web browser window displaying a 'Contact Us' form. The browser's address bar is empty, and the page title is 'Contact Us'. The form includes a navigation menu with links for Home, About, Contact, Services, Support, and FAQ. The form fields are: First Name, Last Name, Address, Suburb, and Phone. The Phone field is circled in red, highlighting the lack of format instructions. A 'Submit' button is located at the bottom of the form.

No information on what format to use to enter the phone number

A close-up of a form field for 'Phone'. The label 'Phone:' is on the left. The input field contains the text 'Enter phone area code and number'. Below the input field is a 'Submit' button.

Add default instructions to the fields

# Implement An Accessible Website – Headings/Labels

---

## Coding Technique

- Provide hints in textboxes in HTML markup

```
<!--header-->
<script type="text/javascript" src="http://code.jquery.com/jquery-
1.8.3.min.js"></script>

<style type="text/css">
input.blur {
  color:#808080;
}
</style>
```

```
<!-- body -->
<div id="phone_no">
  <input type="text" value="" title="Enter phone area code and number"
class="blur" />
</div>
```

# Implement An Accessible Website – Headings/Labels

---

## Coding Technique (Con't)

- Provide hints in textboxes in JavaScript

```
$(document).ready(  
  function() {  
    textboxHint("phone_no");  
  });  
  
function textboxHint(id, options) {  
  var o = { selector: 'input:text[title]', blurClass:'blur' }, $e = $('#'+id);  
  $.extend(true, o, options || {});  
  if ($e.is(':text')) { if (!$e.attr('title')) $e = null; }  
  else { $e = $e.find(o.selector); }  
  if ($e) { $e.each(function() {  
    var $t = $(this);  
    if ($.trim($t.val()).length == 0) {  
      $t.val($t.attr('title')); }  
    }  
  });  
}
```



# Implement An Accessible Website – Headings/Labels

---

## Coding Technique (Con't)

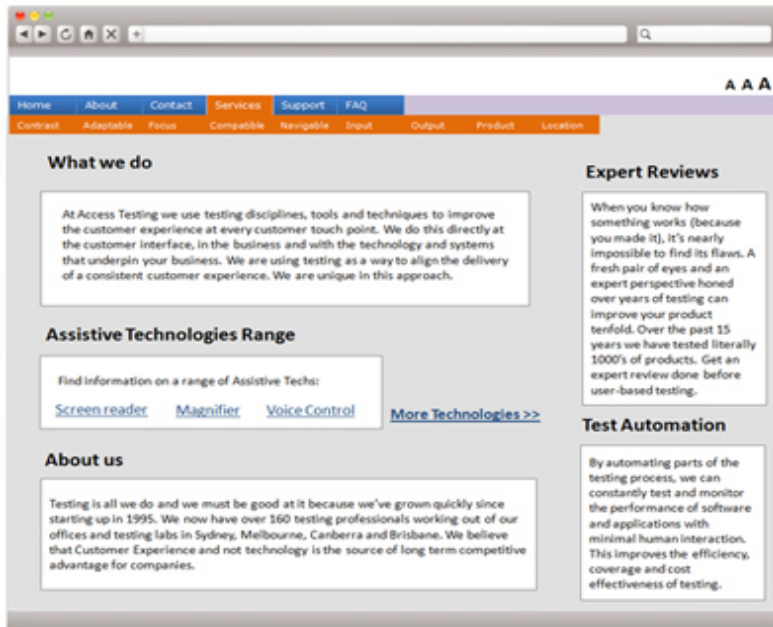
- Provide hints in textboxes in JavaScript

```
if ($t.val() == $t.attr('title')) {   $t.addClass(o.blurClass); }
else {                               $t.removeClass(o.blurClass); }
$t.focus(function(){
    if ($.trim($t.val()) == $t.attr('title')) {
        $t.val("");
        $t.removeClass(o.blurClass); }
}).blur(function() {
    var val = $.trim($t.val());
    if (val.length == 0 || val == $t.attr('title')) {
        $t.val($t.attr('title'));
        $t.addClass(o.blurClass); }
});
$(this.form).submit(function(){
    if ($.trim($t.val()) == $t.attr('title')) $t.val(""); }); }); } }
```

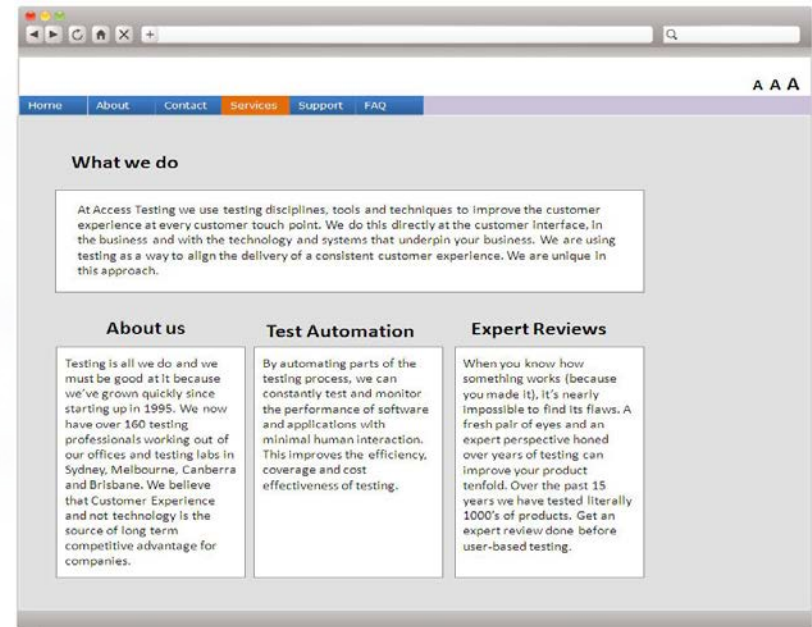
# Implement An Accessible Website – Website Structure and Content (1)

Reference :  
Judging criterion  
Silver 08

- Make website structure and content easy to be used with assistive technologies



Complicated website structure

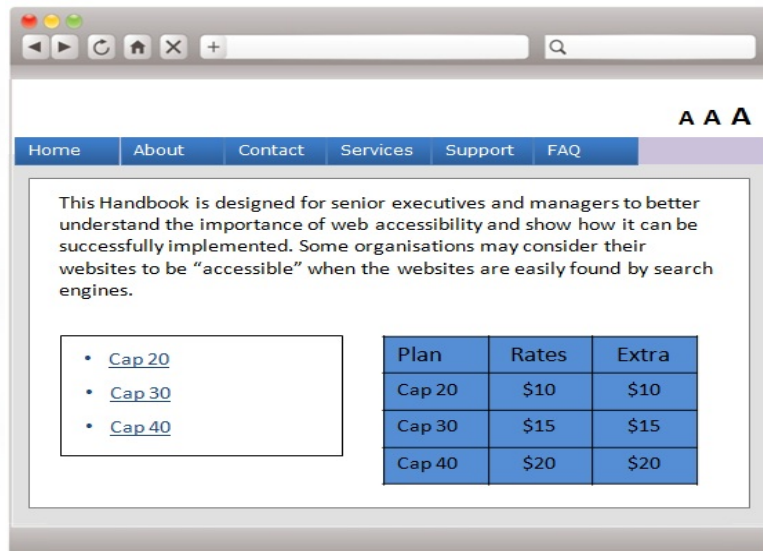


Simpler and ordered website structure

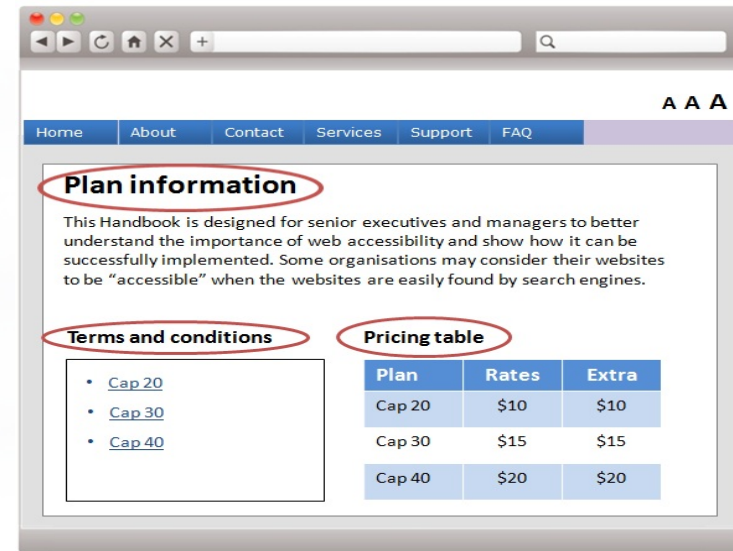
# Implement An Accessible Website – Website Structure and Content (2)

Reference :  
Judging criterion  
Silver 08

- Provide appropriate heading structure for screen readers



Missing heading structure



Provide semantic code for  
headings (h1,h2,h3) in the content

# Implement An Accessible Website – Website Structure and Content

---

## Coding Technique

- Define semantic code for headings (h1,h2,h3) in HTML markup

```
<h1> Plan Information </h1>
```

```
<p> ... </p>
```

```
<h2> Terms and conditions </h2>
```

```
<p> ...</p>
```

```
<h3> Cap20</h3>
```

```
<h3> Cap30</h3>
```

```
<h3> Cap40</h3>
```

```
<h2> Pricing table </h2>
```

```
<p> ...</p>
```



# Implement An Accessible Website – Input Assistance

Reference :  
Judging criterion  
Silver 09

- Provide input assistance such as proper labels for user input, error identification, description and suggestions etc.

The screenshot shows a web browser window displaying an "Online Multipage Survey" form. The form has a navigation menu at the top with links for Home, About, Contact, Services, Support, and FAQ. The form fields are: First Name (Joe), Last Name (Bloggs), Home Address (empty), and Postal Address (PO BOX 123 Crow's Nest Sydney NSW). At the bottom of the form, there is a red oval containing the text "Error: An error has occurred." Below the form, there is a small instruction: "To move to the next section of the survey, select the green arrow icon labeled 'Next' located in the lower right section of the page."

The error message is located at the bottom of the webpage and does not provide an adequate description of what needs to be corrected

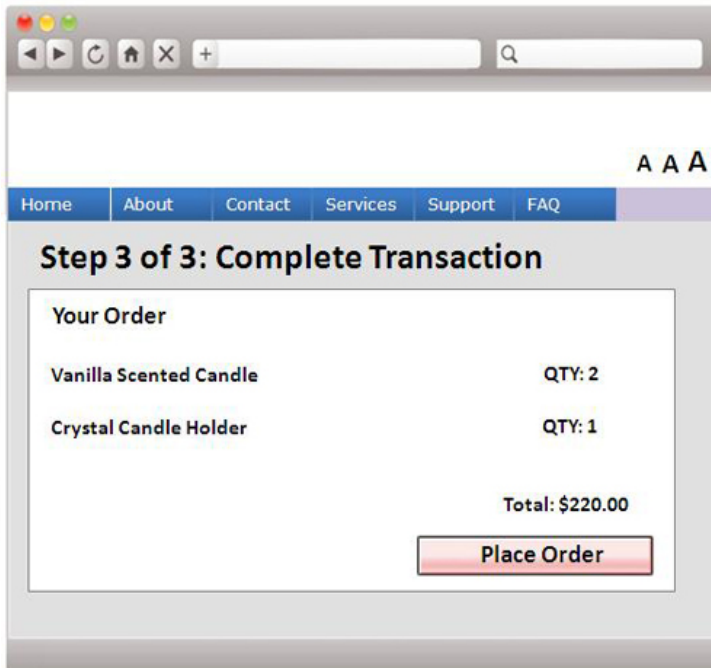
The screenshot shows the same "Online Multipage Survey" form as the previous one. In this version, the error message "Error: Please provide your home address." is located at the top of the form, circled in red. The form fields are the same as in the previous screenshot. Below the form, there is a small instruction: "To move to the next section of the survey, select the green arrow icon labeled 'Next' located in the lower right section of the page."

The error message is located at the top of the webpage and provides a good explanation of what needs to be corrected

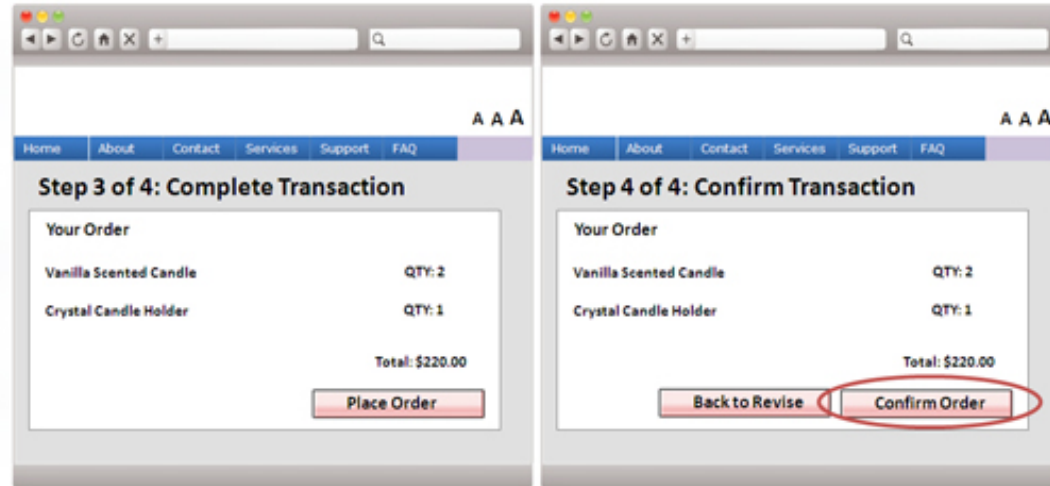
# Implement An Accessible Website – Error Prevention

Reference :  
Judging criterion  
Silver 10

- Provide error prevention for transactions



User is forced to place the order without a confirmation process

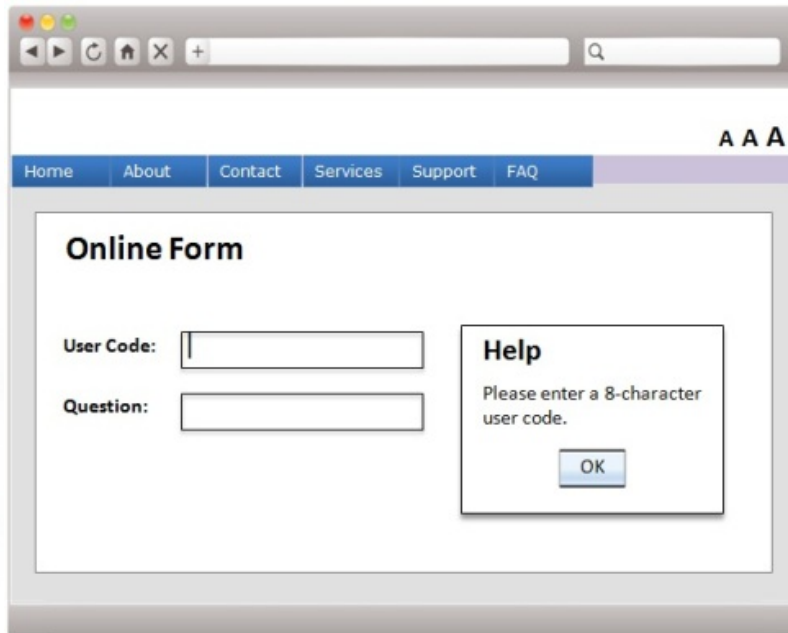


Allow the user to first confirm and give him/her the option to change any of the details before the final submission

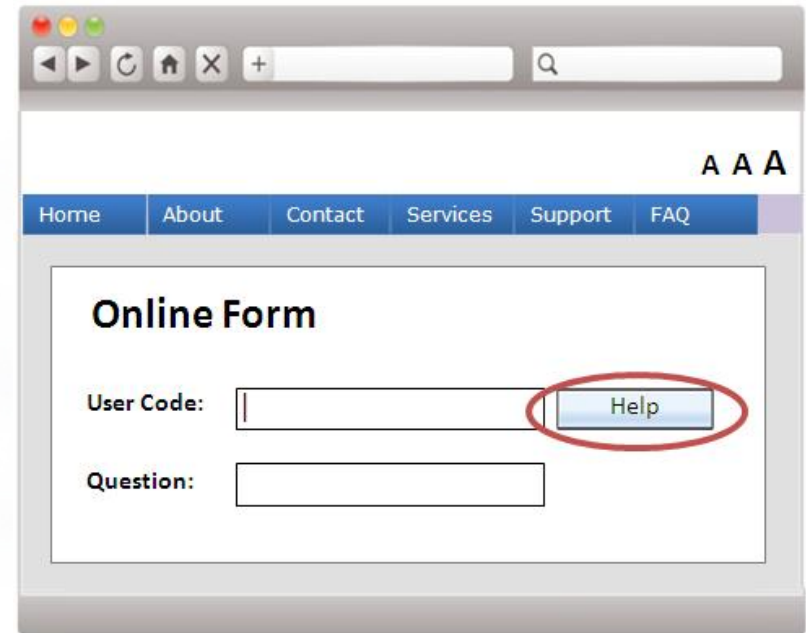
# Implement An Accessible Website – Predictable Operations

Reference :  
Judging criterion  
Gold 01

- Build webpages with predictable operations



A field receives focus, and a help dialogue box describing the field and providing options opens

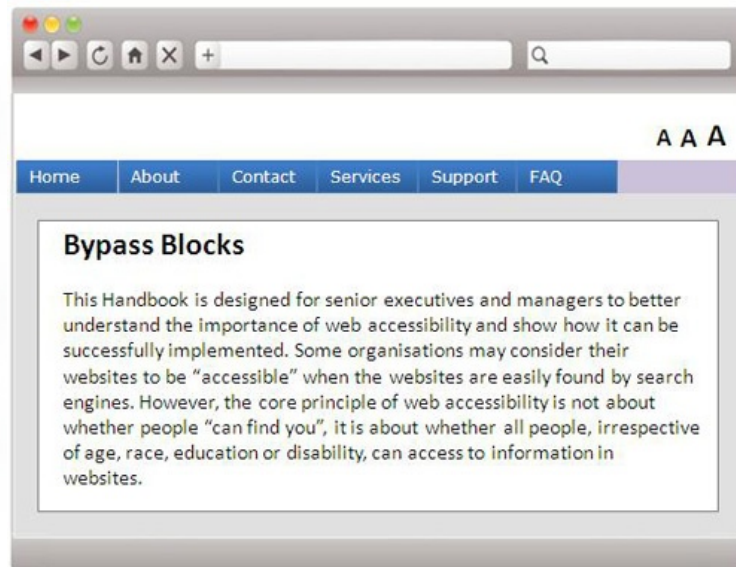


Allow the user to activate "Help" only at their choice

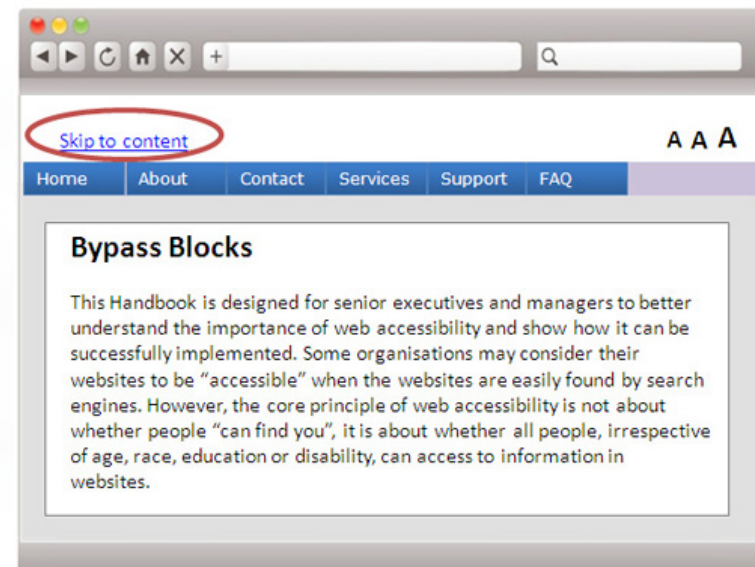
# Implement An Accessible Website - Skip Repetitive Blocks

Reference :  
Judging criterion  
Gold 02

- Ensure users have the ability to skip past repetitive blocks of content (e.g. the navigation at the top of the webpage)



People using screen readers need to read all the navigation information before getting to the target content



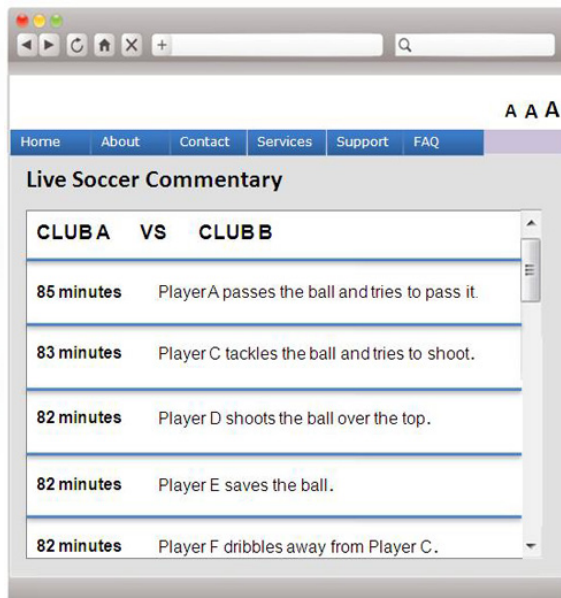
Add a "Skip to content" link at the top of each webpage



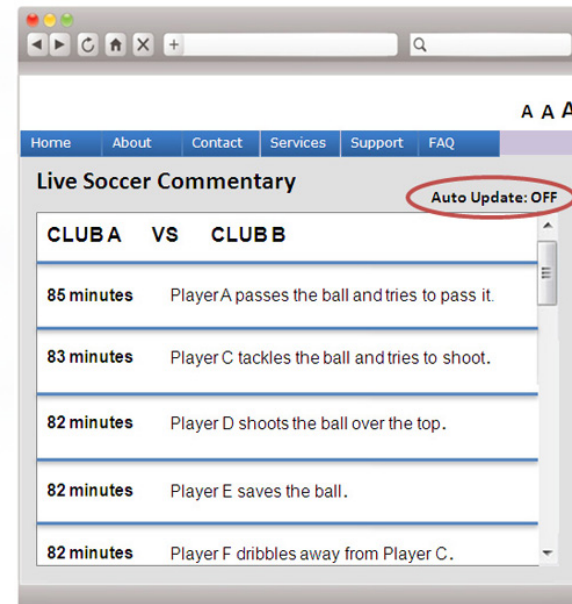
# Implement An Accessible Website – User-initiated Auto-updating

Reference :  
Judging criterion  
Gold 03

- Allow the user to pause, stop or hide any moving information that starts automatically and lasts more than five seconds



Update automatically as content  
changes



Provide a function to turn off the  
auto updating



# Implement An Accessible Website – User-initiated Auto-updating

---

## Coding Technique

- Add buttons to play and stop the auto updating in HTML markup

```
<input type="button" value="Turn On the Auto Update"
onClick="document.getElementById('mymarquee').start();">

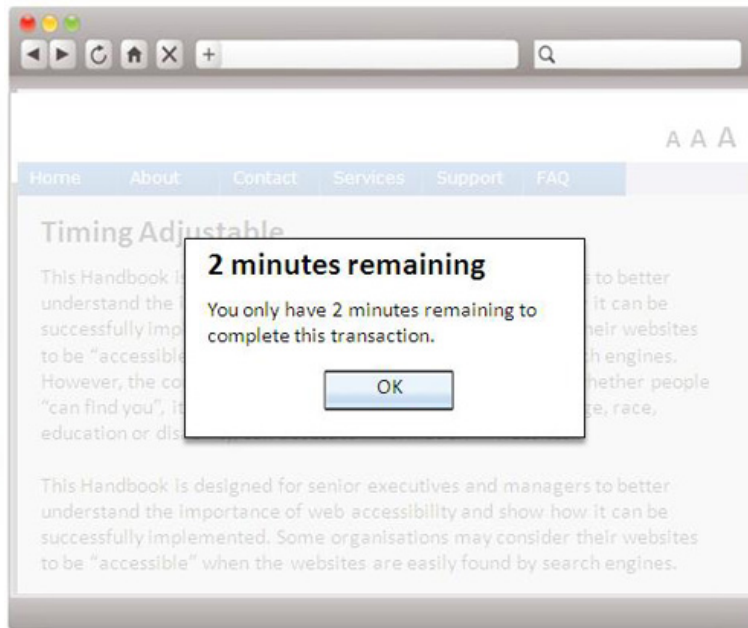
<input type="button" value="Turn Off the Auto Update"
onClick="document.getElementById('mymarquee').stop();">

<marquee behavior="scroll" direction="up" id="mymarquee">
<p>85 minutes Player 1 passes the ball </p>
<p>87 minutes Player 2 passes the ball </p>
<p>89 minutes Player 3 passes the ball </p>
</marquee>
```

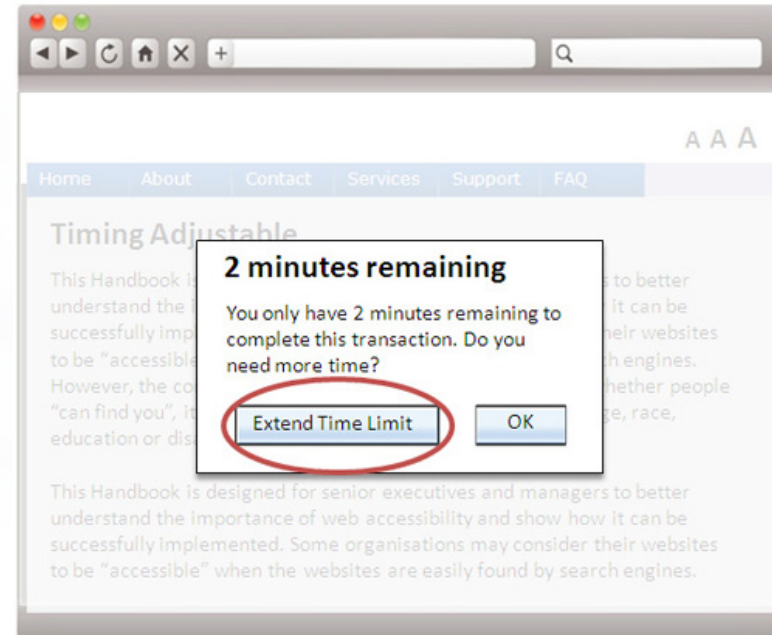
# Implement An Accessible Website – Time-limited Function

Reference :  
Judging criterion  
Gold 04

- Provide users enough time to read the content or operate the function



Warn the user that time  
is about to expire

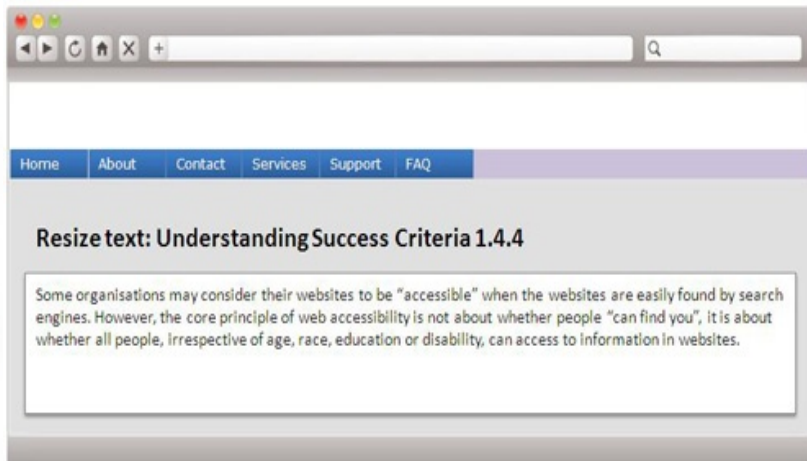


Allow the user to extend the time

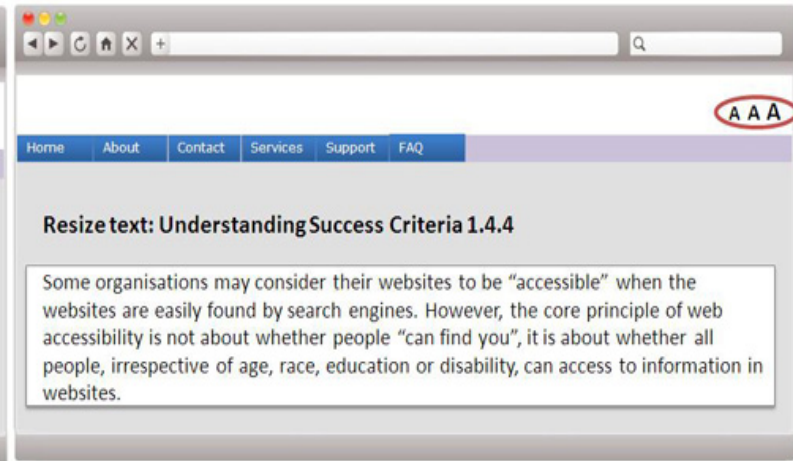
# Implement An Accessible Website – Text Resize

Reference :  
Judging criterion  
Gold 05

- Text can be resized up to 200 % without loss of content



Cannot resize text



Can resize text

# Implement An Accessible Website – Text Resize

## Coding Technique

- Define an id to body tag in HTML markup

```
<body id="body_resizable" >
```

- Add 3 links for users to resize the text in HTML markup

```
<a href='javascript:changeFontSize(0)' class='small'>A</a>  
<a href='javascript:changeFontSize(1)' class='medium'>A</a>  
<a href='javascript:changeFontSize(2)' class='large'>A</a>
```

- Change the size of text by using Javascript

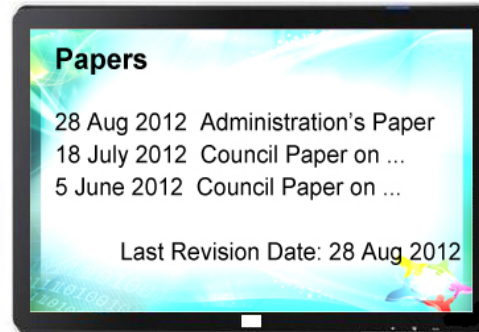
```
function changeFontSize(fs){  
    var s = document.getElementsByTagName("body");  
    for( i = 0 ; s.length ; i++ ){  
        if(s[i] == undefined) return;  
        if(s[i].id == 'body_resizable')  
            if(fs=="0"){fs="100%";}  
            if(fs=="1"){fs="150%";}  
            if(fs=="2"){fs="200%";}  
            s[i].style.fontSize = fs; }  
}
```



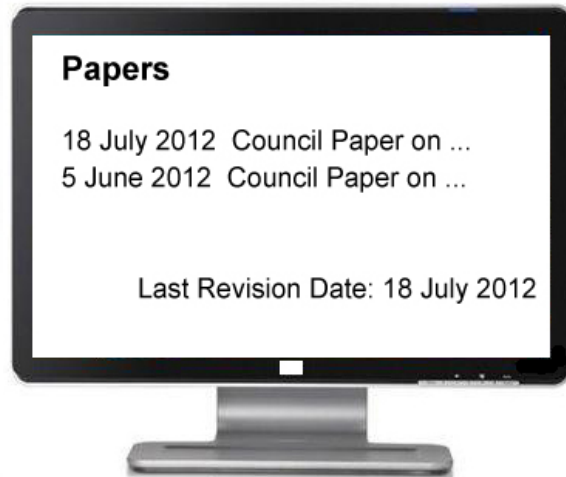
# Implement An Accessible Website – Text-only Version

Reference :  
Judging criterion  
Gold 06

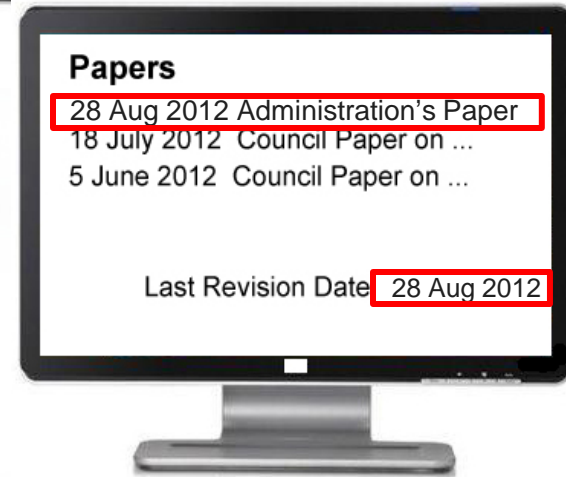
- Provide in-sync content for text-only version of a website



Primary version



Text-only version



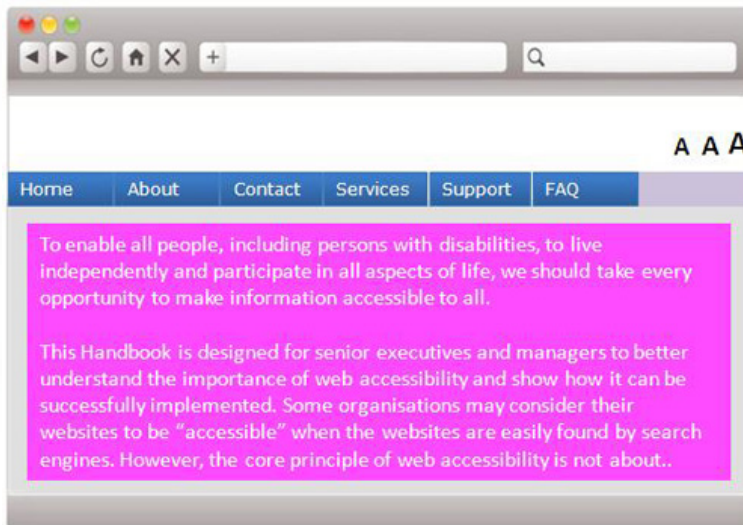
Update the text version when  
there is any change in the website



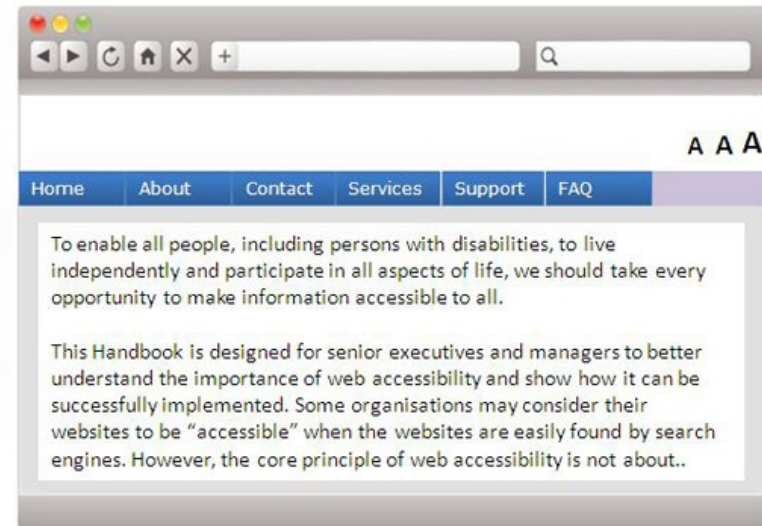
# Implement An Accessible Website – Sufficient Colour Contrast

Reference :  
Judging criterion  
Gold 07

- The visual presentation of text and images of text has a contrast ratio of at least 4.5:1. Logo or brand name is exempted



Poor background contrast



Easier to read with higher contrast

# Implement An Accessible Website – Compatibility

Reference :  
Judging criterion  
Gold 08

- Ensure correct syntax of webpages for compatibility with browsers and assistive technologies

Breakfastmenu.xml

```
<breakfast_menu>
<food>
<name>Belgian Waffles</name>
<price>$5.95</price>
<descriptionn>
Two of our famous Belgian Waffles with plenty of real maple
syrup
</description>
<calories>650 </calories>
</food>

<food>
<name>Bacon and Eggs</name>
<price>$7.95</price>
<description>
Bacon and eggs served on toast
</description>
<calories>900
</food>

<breakfast_menu>
```

Misspelled closing tag

Missing a "</calories>"  
closing tag

Incorrect syntax

Breakfastmenu.xml

```
<breakfast_menu>
<food>
<name>Belgian Waffles</name>
<price>$5.95</price>
<description>
Two of our famous Belgian Waffles with plenty of real
maple syrup
</description>
<calories>650</calories>
</food>
<food>
<name>Bacon and Eggs</name>
<price>$7.95</price>
<description>
Bacon and eggs served on toast
</description>
<calories>900</calories>
</food>

<breakfast_menu>
```

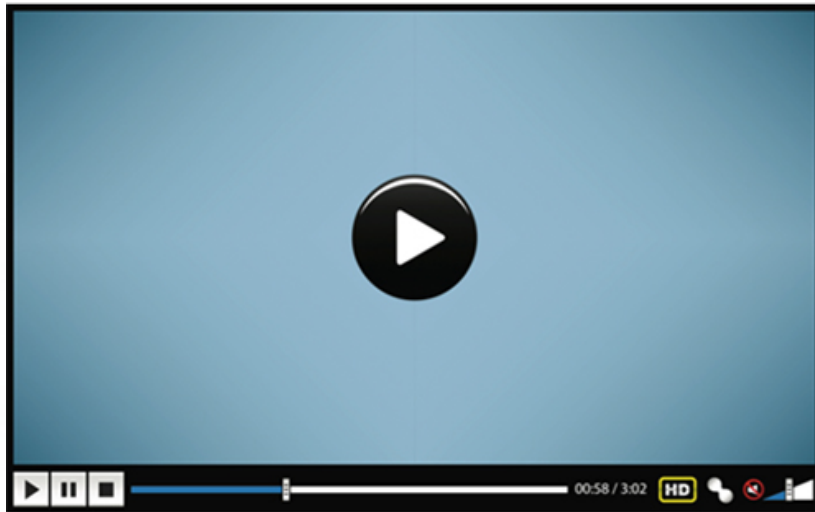
All tags have opening  
and closing structures  
and are spelled  
correctly

Correct syntax

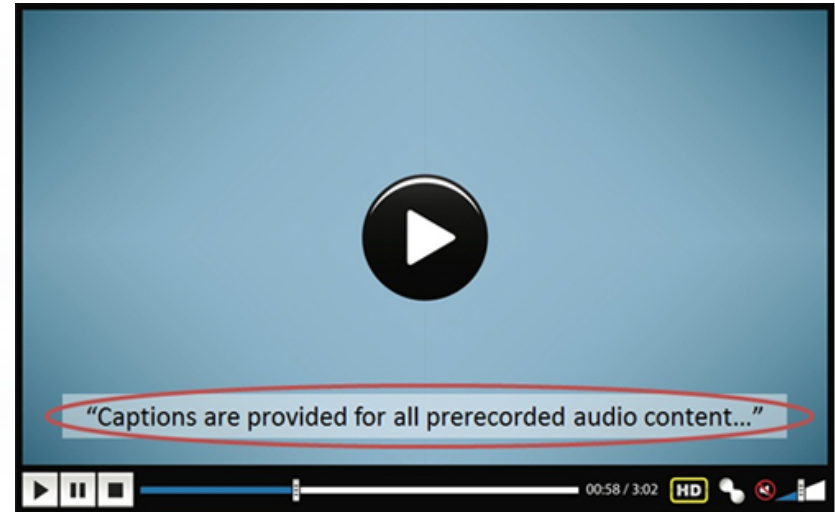
# Implement An Accessible Website – Pre-recorded Video

Reference :  
Judging criterion  
Gold 09

- Provide captions or sign language for pre-recorded videos and audio content



Missing captions



Provide captions

# Implement An Accessible Website – Table Header and Data

Reference :  
Judging criterion  
Gold 10

- Provide meaningful title, summary or description for table header as well as data

		Office Hours
General Enquiry	2582 4606	8:45 am to 5:45 pm
Web Accessibility	2582 6079	9:00 am to 5:30 pm

No caption and title for the table

Hotline	Telephone	Office Hours
General Enquiry	2582 4606	8:45 am to 5:45 pm
Web Accessibility	2582 6079	9:00 am to 5:30 pm

Provide meaningful caption and column title for the table



# Implement An Accessible Website – Table Header and Data

---

## Coding Technique

- Provide a summary, caption and headers to table

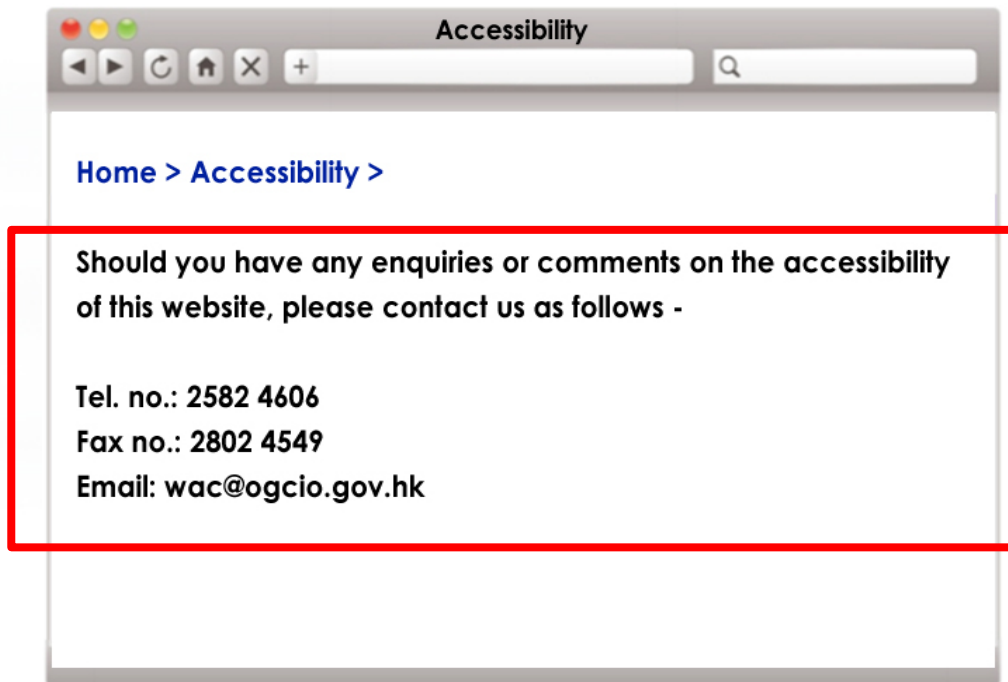
```
<table summary="The telephone number of the General Enquiry is 2582 4606  
which office hours are 8:45 am to 5:45 pm. For Web Accessibility, the telephone  
number is 2582 6079 which office hours are 9:00 am to 5:30 pm.">  
<caption>Enquiry Information</caption>  
<tr>  
    <th>Hotline</th>  
    <th>Telephone</th>  
    <th>Office Hours</th>  
</tr>  
...  
</table>
```



# Implement An Accessible Website – Accessibility Statement

Reference :  
Judging criterion  
Gold 11

- Provide an accessibility statement with contact points for users when they encounter difficulties in accessing the content



**Provide an accessibility statement with  
contact points**

# Implement An Accessible Website – Accessibility Statement

---

## Coding Technique

- Add Accessibility Statement in HTML markup

```
<p>Should you have any enquiries or comments on the accessibility of this website,  
please contact us as follows – </p>  
<table summary = “Accessibility Statement”>  
  <tr>  
    <td width=“10%”>Tel. no.: </td>  
    <td width=“90%”>2582 4606</td>  
  </tr>  
  <tr>  
    <td>Fax. no.: </td>  
    <td>2802 4549 </td>  
  </tr>  
  <tr>  
    <td>Email: </td>  
    <td><a href=“mailto:wac@ogcio.gov.hk”>wac@ogcio.gov.hk</a></td>  
  </tr>  
</table>
```

# How to Start Building An Web Accessibility Website?

---

## Major Steps

- Stock-take the website
- Scoping, set conformance level
- Gap analysis, assessment
- Rectification
- Testing
  - Code scanning (e.g. Achecker, WAVE,...)
  - Visual review (e.g. Vischeck, Colour Contrast Check,...)
  - Manual testing with assistive technologies (e.g. Jaws, VoiceOver, NVDA, Zoom text, ...)
  - Human testing (preferably by persons with disabilities)

# How to Start Building An Web Accessibility Website?

---

## Other Salient Points

- Following guidelines during design and development processes
- On-going maintaining accessibility of content and monitoring
- Evaluation of legacy sites
- Evaluation of dynamically generated webpages

# Where to Find Help for Your Web Accessibility Project?

---

## For Executives

- Management Handbook - [www.webforall.gov.hk/management\\_handbook/](http://www.webforall.gov.hk/management_handbook/)
- Web Designers' Corner – [www.webforall.gov.hk/web\\_designers\\_corner/](http://www.webforall.gov.hk/web_designers_corner/)

## For Developers

- Webforall portal - [www.webforall.gov.hk](http://www.webforall.gov.hk)
- W3C website - [www.w3.org/TR/WCAG20](http://www.w3.org/TR/WCAG20)
- Sample websites - [www.gov.hk](http://www.gov.hk) ; [www.eoc.org.hk](http://www.eoc.org.hk)
- Testing Techniques - [www.webforall.gov.hk/management\\_handbook/10\\_five\\_techniques.htm](http://www.webforall.gov.hk/management_handbook/10_five_techniques.htm)



# Web Accessibility Recognition Scheme

---

## Objectives

- Recognise efforts and accomplishments in adoption of web accessibility design
- Further raise the awareness in the community and encourage adoption

## Structure

- Co-organise with Equal Opportunities Commission
- Open to local businesses, NGOs, academia and quasi-government organisations
- Not a competition or compliance audit

# Web Accessibility Recognition Scheme

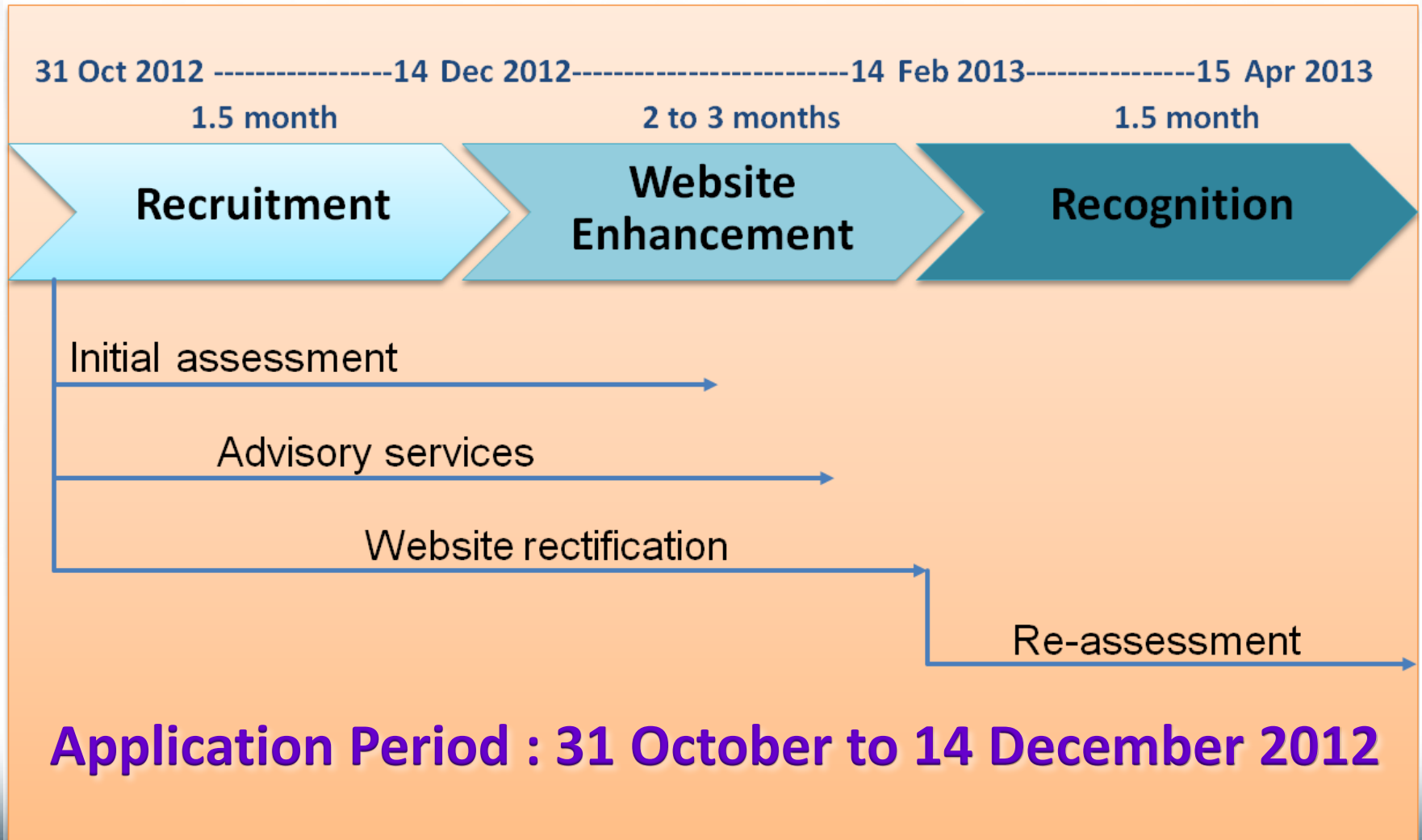
---

## Two-tier Accreditation System

- **1st tier (Silver Award)**
  - Websites incorporating basic web accessibility features
- **2nd tier (Gold Award)**
  - Websites incorporating basic and key features
- Accreditation logos will be granted to awardees for display in their accredited websites
- The accreditation needs to be renewed annually



# Web Accessibility Recognition Scheme



# Benefits of Joining the Scheme

---

## 1. Free Assessment and Advisory Services

- Assessment report with recommendations
- Advisory services provided via hotline and e-mail enquiry

## 2. Social Responsibilities

- Make websites more accessible and friendly to different segments of the community
- Contribute to a more caring and inclusive society

## 3. Recognition and Achievements

- Receive an award which recognises and publicises achievements and good work
- Build a positive corporate image



# Benefits of Joining the Scheme

---

## 4. Cost Savings

- Familiarise staff with international guidelines and best practices on barrier-free website design and maintenance

## 5. Enhancing Competitiveness

- Reach out to more online customers
- Make websites more friendly to search engines, which in turn helps get more prominent ranking in search engine results

**Thank you!**