



BlueHornet Whitepaper

Best Practices for HTML Email Rendering

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BlueHornet Best Practices for Email Rendering

Purpose

Every popular email client (for example: Windows Live Hotmail, Yahoo! Mail, AOL mail, Google Gmail, Microsoft Outlook, etc...) will display HTML content sent in email. The problem arises for designers, tasked with delivering consistently branded HTML designs, in that not every email client has a "Web Standards" compliant HTML rendering engine. There are still many discrepancies between email clients when it comes to support for various CSS selectors, style attributes, HTML attributes, JavaScript, Flash, forms and various HTML tags. Due to these discrepancies, developing an HTML email that renders consistently across all (or at least most) major email clients can be a challenging task, but is achievable. The purpose of this document is to provide relevant information for designers, coders, and non-designers alike on how to build a successful email that will render well in all email clients.

Who Is This For?

For those of you who aren't familiar with HTML, we hope this document will help you communicate with designers when attempting to identify problems with rendering and layout. If you outsource your creative design, we hope you can use this document as a way of transferring information about the idiosyncratic rendering issues specific to HTML email to your design agency in order to maximize your design investment.

For designers and HTML coders the document will be a "deep dive" into best practices for structuring HTML and CSS code for maximized consistency in design rendering.

How Did We Arrive at Our Conclusions?




Our best practices are derived from years of experience designing and coding email marketing messages. The ever-changing landscape of support offered by email clients as they go through updates and revisions creates a very moving target for designers. In order to keep track of the various degrees of support for HTML, we created a series of email test templates, which contain over 75 rendering tests. On a recurring basis, we run these through the BlueHornet email rendering tool. Our best practices for coding HTML emails are based on these results.

Coding Your HTML for Email































After you have made all the considerations regarding your email in the design phase, then begins the task of coding the design in HTML. Because there are many ways to achieve the same results when working with HTML and CSS, it is necessary to choose a method that will be supported by the greatest number of email clients.

As you will see in each of the test-result tables below, not every email client offers the full breadth of compliance with HTML and CSS standards that we have become accustomed to with modern browsers. However, by applying a careful combination of supported HTML attributes with inline CSS attributes, successful rendering is achievable.

Legend

-  Fully Supported
-  Not Supported
-  Partially Supported

Defining Your CSS Styles

	AOL 9	AOL.com	Gmail	Live HotMail	Lotus Notes	.Mac Mail	NetZero	Outlook 2007	Yahoo Classic	Yahoo Mail
<style>										
<link>										
inline CSS style attributes										

Issue: <link> & <style> tags

Support for <link> and <style> is varied across most major email clients (see matrix above).



Recommendation:

Define all styles inline using the style attribute in combination with standard HTML attributes. The style attribute allows you to place CSS attributes inline in any HTML element.



Example:

```
<td style="font-size:12px; color:#666666">  
or  
<table bgColor="#CCCCCC" style="font-size:12px; color:#666666">
```

Defining Your CSS Styles (continued)

Issue: Shorthand or longhand CSS styles?

There are scattered cases where the shorthand method of defining your inline style attributes is unsupported.



Recommendation:

Use the longhand method of defining your inline style attributes



Example:

Longhand Style Writing

```
<td style="font-family:verdana; font-size:12px; font-weight:bold;">
```

vs. shorthand (Not Recommended):

```
<td style="font:bold 12px verdana;">
```

Tags Outside of the Body

Issue: <html>, <meta>, <doctype> & <head> tags

The <html>, <meta>, <doctype> and <head> are all valid tags for publishing W3C standards compliant HTML. These tags live outside of the <body> tag and are designed to deliver information about your document to the browser. Since a web-based email client is a web page itself, these tags are already defined, which means your email HTML content cannot redundantly define this information. The result is that these tags are usually stripped out or rewritten with proprietary tags by the ISP.



Recommendation:

Don't rely on <html>, <meta>, <doctype> and <head> tags for rendering elements of your design and leave them out of the markup that you deliver.

Establishing Your Layout

Due to the lack of HTML and CSS standards compliance in major email client software, it is recommended that you achieve your design layouts using <table> tags and not with <div> tags. Most modern web designers would argue that the use of tables should be reserved for the purpose of displaying tabular data as opposed to building multi-column layouts. But with the varied support for the <div> element and CSS floats and positioning, using <table> tags with a combination of CSS padding, or explicit widths and alignment, is the safest way to ensure your design will render as desired across all email clients.

	AOL 9	AOL.com	Gmail	Live HotMail	Lotus Notes	.Mac Mail	NetZero	Outlook 2007	Yahoo Classic	Yahoo Mail
<table>										
HTML width	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
HTML height	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓
CSS width	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
CSS height	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓
<td>										
HTML TD width	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
HTML TD height	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
CSS TD width	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
CSS TD height	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
<div>										
CSS height	✓	✓	✓	✓	✗	✗	✓	✗	✓	✓
CSS width	✓	✓	✓	✓	✗	✗	✓	✗	✓	✓

Establishing Your Layout (continued)

Issue: Limited <div> tag support

There are some cases of limited support for the <div> tag style attributes "width" and "height". Without the ability to define a width, the <div> element becomes less useful as a box or container for creating a layout.



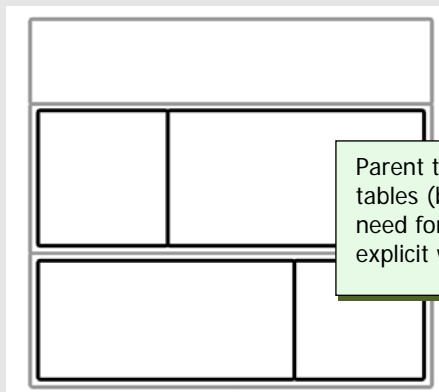
Recommendation:

Use tables with nested <table> in order to create complex layouts, and avoid using <div> tags that require width definitions for your design to render correctly. With Outlook 2007, the <div> tag has been relegated to the status of a <p> or tag.



Example of Nesting Tables for Complex Layout:

```
<table width="600" border="0" cellpadding="0" cellspacing="0">
  <tr>
    <td>content</td>
  </tr>
  <tr>
    <td><table border="0" cellspacing="0" cellpadding="0">
      <tr>
        <td>content</td>
        <td>content</td>
      </tr>
    </table></td>
  </tr>
  <tr>
    <td><table border="0" cellspacing="0" cellpadding="0">
      <tr>
        <td>content</td>
        <td>content</td>
      </tr>
    </table></td>
  </tr>
</table>
```



Parent table contains 3 rows. Nested tables (black) contain 2 columns. No need for floating <div> elements with explicit widths.

Establishing Your Layout (Continued)

Issue: Colspan & rowspan attributes

In Lotus Notes, there is limited support for the <td> tag attributes colspan and rowspan.



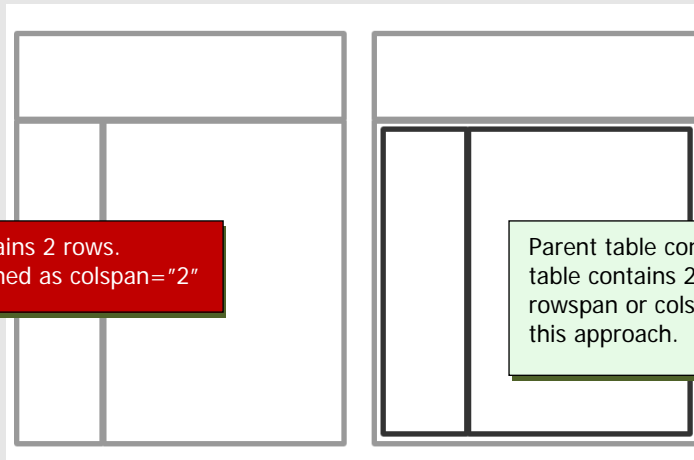
Recommendation:

Use <table> tags to layout your email content, and nest <table> tags to avoid using colspan and rowspan.



Example of Nesting Tables to Avoid Colspan and Rowspan:

```
<table width="600" border="0" cellpadding="0" cellspacing="0">
  <tr>
    <td>content</td>
  </tr>
  <tr>
    <td><table border="0" cellspacing="0" cellpadding="0">
      <tr>
        <td>content</td>
        <td>content</td>
      </tr>
    </table></td>
  </tr>
</table>
```



Single table contains 2 rows.
The top row defined as colspan="2"

Parent table contains 2 rows. Nested table contains 2 columns. No need for rowspan or colspan attributes with this approach.

CSS Attributes for Layouts

	AOL 9	AOL.com	Gmail	Live HotMail	Lotus Notes	.Mac Mail	NetZero	Outlook 2007	Yahoo Classic	Yahoo Mail
(various tags)										
float	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓
position	⚠	⚠	✓	✗	✗	⚠	✗	✗	✗	✗
display:inline	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
display:block	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓
display:list-item	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
display:none	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
overflow	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓
visible	✓	✓	✗	✓	✗	✓	✓	✗	✓	✓

Issues: Float, clear, position, display, overflow & visible

Some email clients offer limited support of the style attributes float, clear, position, display, overflow and visible.

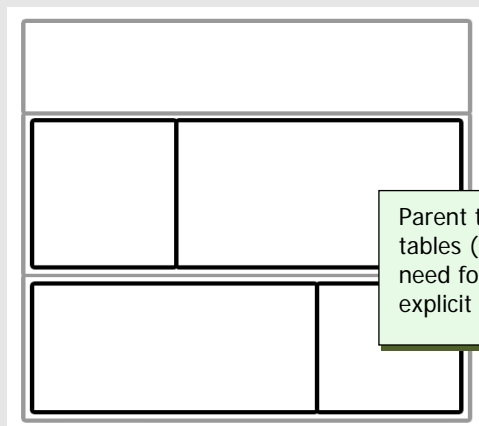


Recommendation:

Do not rely on the above CSS attributes for layout purposes. If you need multiple box elements to line up vertically or horizontally in a specific pattern, it is best to use a combination of tables and/or nested tables.



Example of Nesting Tables for Complex Layout:



Parent table contains 3 rows. Nested tables (black) contain 2 columns. No need for floating <div> elements with explicit widths.

Defining Background Colors

	AOL 9	AOL.com	Gmail	Live HotMail	Lotus Notes	.Mac Mail	NetZero	Outlook 2007	Yahoo Classic	Yahoo Mail
<table>										
HTML bgcolor	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CSS background-color	✓	✓	✗	✗	✗	✓	✗	✗	✓	✓
<td>										
HTML bgcolor	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CSS background-color	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<div>										
CSS background-color	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
<body>										
HTML bgcolor	✓	✗	✗	✓	✓	✗	✗	✓	✗	✗
CSS background-color	✓	✗	✓	✗	✗	✓	✗	✓	✗	✗

Defining Background Colors (continued)

Issues: Background color on <body> tags

1. Using the <body> tag to create a background color for an entire email is not reliable as different email clients will break, strip, or rewrite the <body> tag.
2. If the background color defined in a <body> tag works correctly (in Outlook for example), there is often the unfriendly side effect of trying to forward an email (perhaps with a note to a colleague) with the background color rendering in the forwarded message. This is especially annoying when the background color is dark or has limited contrast with the color of the email text.

Affected email clients: Gmail, Hotmail, Mac Mail, Yahoo Classic, Yahoo Mail



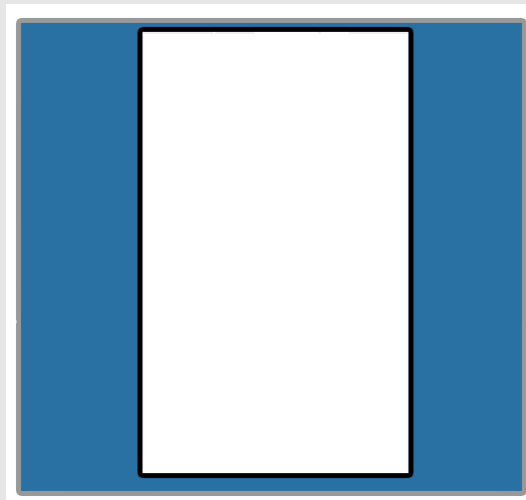
Recommendation:

Simulate a body background by creating a 100% wide table with a background color defined using either HTML or CSS attributes. Then nest the email content table inside.



Example of Nesting Tables for Simulated Body Background:

```
<table width="100%">
  <tr>
    <td style="background:# 336699">
      <table width="600">
        <tr>
          <td style="background:# 336699">Content</td>
        </tr>
      </table>
    </td>
  </tr>
</table>
```



Defining Background Colors (continued)

Issue: Background color on <div> tags

Lotus Notes will not display background colors in <div> tags.



Recommendation:

Set background colors within <td> or <table> elements using either HTML or CSS attributes rather than <div>s.



Example:

```
<td bgcolor="#999999">  
or  
<td style="background-color:#999999">
```

Defining Background Images

	AOL 9	AOL.com	Gmail	Live HotMail	Lotus Notes	Mac Mail	NetZero	Outlook 2007	Yahoo Classic	Yahoo Mail
<table>										
HTML background	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓
<td>										
HTML background	✓	✓	✗	✓	✗	✓	✓	✗	✓	✓
CSS background-image	✓	✓	✗	✗	✗	✓	✗	✗	✓	✓
CSS background-repeat	✓	✓	✗	✗	✗	✓	✗	✗	✓	✓
CSS background-position	✓	✓	✗	✗	✗	✓	✗	✗	✓	✓
<div>										
CSS background-image	✓	✓	✗	✗	✗	✓	✗	✗	✓	✓
CSS background-repeat	✓	✓	✗	✗	✗	✓	✗	✗	✓	✓
CSS background-position	✓	✓	✗	✗	✗	✓	✗	✗	✓	✓
<body>										
HTML background	✓	✓	✗	✗	✓	✗	✗	✓	✗	⚠*
CSS background-image	✓	✗	✗	✗	✓	✓	✗	✗	✗	✗
CSS background-repeat	✓	✗	✗	✗	✓	✓	✗	✗	✗	✗
CSS background-position	✓	✗	✗	✗	✗	✓	✗	✗	✗	✗

* Background image displays Yahoo Mail when using Internet Explorer, but not in Firefox.

Defining Background Images (continued)

Issue: Background image on <body> tags

Using the <body> tag to create a background image for an entire email is not reliable as different email clients will break, strip, or rewrite the <body> tag.

Affected Email Clients: Gmail, Hotmail, Mac Mail, Yahoo Classic, Yahoo Mail



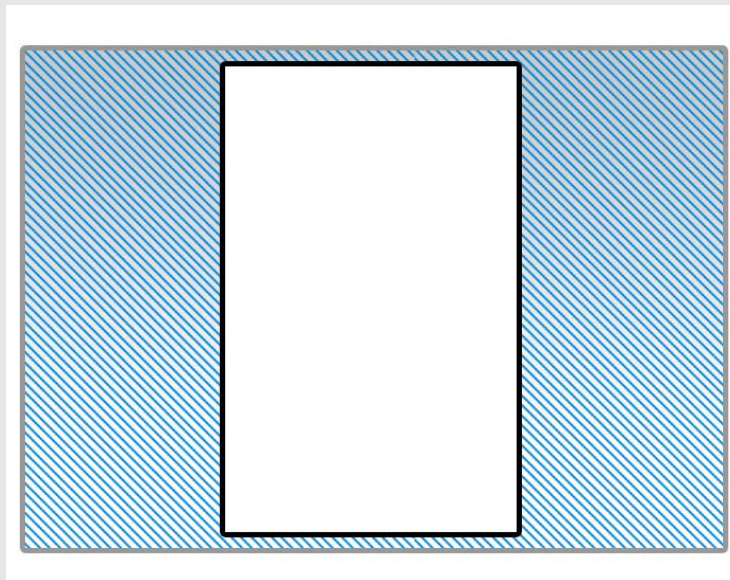
Recommendation:

We recommend not using the CSS attribute background-image, as many email clients will not render properly. Instead, simulate a body background image by creating a 100% wide table with a background image defined with the HTML attribute "background". Then nest the email content table inside.



Example of Nesting Tables for Simulated Body Background:

```
<table background="http://yourdomain.com/image.jpg" width="100%">
  <tr>
    <td>
      <table width="600"><tr><td>Email Content Here</td></tr></table>
    </td>
  </tr>
</table>
```



Defining Background Images (continued)

Issue: CSS attribute background-image

Background images do not render when using the CSS attribute background-image.

Affected Email Clients: Gmail, Hotmail, Lotus Notes, NetZero, Outlook 2007



Recommendation:

Define the background image with the HTML attribute background on either a <table> or <td> element.



Example:

```
<td background="http://yourdomain.com/image.jpg" bgcolor="#999999">
```

Note:

Unfortunately by relying on the HTML background attribute, you will not be able to take advantage of the background-repeat or background-position properties that the CSS style method allows. If the CSS properties are required for your design, you may still use them and simply allow your design to degrade gracefully in the affected mail clients mentioned above.

Issue: Most clients will block images by default

Most hosted mail clients block images by default and both Outlook 2007 and Lotus Notes have limited background images support. If you are placing text over a background image, there is a chance your text will get lost if that image doesn't render. (For example: White text that was supposed to display over a dark image could end up printing over a white background color if the image failed to render.)



Recommendation:

Be sure to add the HTML attribute bgColor similar to the color of the background image applied to the element. That way, if the email client either blocks or fails to render the image, any contrasting text or links will still be visible.



Example:

```
<td background="http://yourdomain.com/image.jpg" bgcolor="#999999">
```

Defining Padding & Margins

	AOL 9	AOL.com	Gmail	Live HotMail	Lotus Notes	.Mac Mail	NetZero	Outlook 2007	Yahoo Classic	Yahoo Mail
<table>										
HTML cellpadding	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓
CSS margin	✓	✓	✓	✗	✗	✓	✓	✓	✓	✓
<td>										
CSS padding	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
<div>										
CSS padding	✓	✓	✓	✓	✗	✗	✓	✗	✓	✓
CSS margin	✓	✓	✓	✗	✗	✗	✓	✓	✓	✓

Issue: <table> cellpadding attribute

There is no support for the <table> tag attribute cellpadding in Gmail.



Recommendation:

Set padding by using CSS attributes on desired <TD> tags, rather than relying on cellpadding applied to the table.



Example:

```
<td style="padding:25px">
```

Issue: Padding applied to <div>

There is limited support for the style attribute padding for <div> tags.



Recommendation:

Avoid using <div> tags to set padding. Instead, use <td> CSS padding attributes for desired result.



Example:

```
<td style="padding:25px">
```

Defining Padding & Margins (continued)

Issue: `<td>` padding in Outlook 2007

We have found that `<td>` cells will inherit the padding values of adjacent (sibling) `<td>` cells in Outlook 2007.



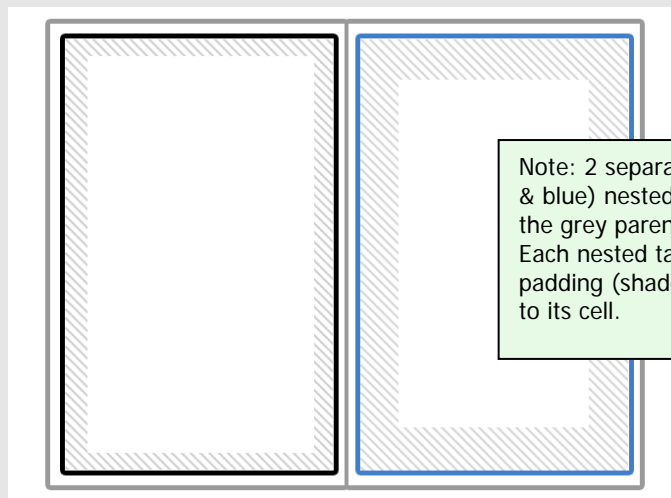
Recommendation:

The easiest fix here is to simply make sure adjacent cells have the same padding values applied. If, for some design reason, they need unique padding, you will need to nest a `<table>` in the adjacent cells and apply unique padding to each of the nested table cells.



Example of Nesting Tables With Different Padding in Adjacent Cells:

```
<table border="0" cellspacing="0" cellpadding="0">
  <tr>
    <td><table border="0" cellspacing="0" cellpadding="0">
      <tr>
        <td style="padding:5px">Content</td>
      </tr>
    </table></td>
    <td><table border="0" cellspacing="0" cellpadding="0">
      <tr>
        <td style="padding:10px">Content</td>
      </tr>
    </table></td>
  </tr>
</table>
```



Note: 2 separate tables (black & blue) nested inside each of the grey parent table's cells. Each nested table has unique padding (shaded area) applied to its cell.

Defining Borders

	AOL 9	AOL.com	Gmail	Live HotMail	Lotus Notes	.Mac Mail	NetZero	Outlook 2007	Yahoo Classic	Yahoo Mail
<table>										
HTML border (size)	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
HTML bordercolor	✓	✗	✗	✓	✗	✓	✗	✓	✗	✗
CSS border-color	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CSS border-style	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
CSS border-width	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<td>										
CSS border-color	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CSS border-style	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
CSS border-width	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<div>										
CSS border-color	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
CSS border-style	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
CSS border-width	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓

Issue: HTML border attribute

Border colors do not render when written with HTML attributes.

Affected Email Clients: AOL.com, Gmail, Lotus Notes, NetZero, Yahoo Classic, Yahoo Mail



Recommendation:

Designate borders using CSS attributes.



Example:

```
<td style="border-style:solid; border-color:#CCCCCC; border-width:1px;">
```

Styling Text & Fonts

When it comes to text styling, there are several ways to achieve the desired font face/family, font size, color and decoration. Our recommendation is to use CSS attributes in the parent <td> to style your text.

	AOL 9	AOL.com	Gmail	Live HotMail	Lotus Notes	.Mac Mail	NetZero	Outlook 2007	Yahoo Classic	Yahoo Mail
<p> <td>										
Default to email client's stylesheet if no attributes specified	✓	✓	✓	✓	✗	✓	✓	✗	✓	✗
HTML font attributes (all)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CSS Shorthand font attributes	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
CSS font-family	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CSS font-size	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CSS color	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CSS color without "#" in hex code	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓
CSS letter-spacing	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓
CSS line-height	✓	✓	✓	✓	✗	✓	✓	✗	✓	✓
CSS text-transform	✓	✓	✓	✓	✗	✓	✓	✓	✓	✓

Recommended text formatting

If there is a block of text within the <td> that requires a different font attribute, you can create the inline CSS within a or tag for that specific span of text.



Example:

```
<td style="font-family:Arial, Helvetica, sans-serif; font-size:12px; color:#666666"> Quisque et erat sed eros tempus ultricies. <font style="color:#e7e7e7">Curabitur suscipit</font> Sed lacus erat</td>
```

Note:

Be sure to use a "#" before the color hex code. Outlook and Lotus Notes will not render the color without it.



Example:

```
<td style="color:#666666">
```

Styling Text & Fonts (continued)

Issue: Email client's CSS styling your content!

Some email clients will default to their own styles if all attributes are not specified in your HTML.

Affected Email Clients: Gmail, Hotmail, Yahoo Mail



Recommendation:

Designate all font properties (at least family, size and color) in the <td> or tag using CSS attributes.



Example:

```
<td style="font-family:Arial, Helvetica, sans-serif; font-size:12px; color:#666666">
```

Issue: Yahoo Classic <p> tag bug

In Yahoo Classic, <p> tags lose their default margin specification and collapse the usual "hard return" spacing between paragraphs.



Recommendation 1:

Use two
 tags tag to separate paragraphs.



Recommendation 2:

Write the desired margin using CSS attributes within every <p> tag instance.



Example 1:

```
Line 1 of text<br /><br />
Line 2 of text
```



Example 2:

```
<p style="margin-bottom:20px"> Line 1 of text</p>
<p style="margin-bottom:20px"> Line 2 of text</p>
```

Styling Text & Fonts (continued)

Issue: Hotmail in Firefox line-height bug

There appears to be a rendering issue in Hotmail when using the Firefox browser, where a vertical space appears between images separated by a `
` in the same `<td>`.



Recommendation 1:

You can write a CSS attribute of `line-height=0px` within the `<td>` where the images are placed, assuming there is no text in the `<td>` that will be adversely affected.



Recommendation 2:

Place each image in its own `<td>`.



Example 1:

```
<td style="line-height:0px"><br />
</td>
<td>link</a>
```

Styling Bullet Lists

	AOL 9	AOL.com	Gmail	Live HotMail	Lotus Notes	.Mac Mail	NetZero	Outlook 2007	Yahoo Classic	Yahoo Mail
										
CSS list-style-image	✓	✓	✓	✗	✗	✓	✗	✗	✓	✓
CSS position-inside	✓	✓	✓	✗	✗	✓	✗	✗	✓	✓
CSS position outside	✓	✓	✓	✗	✗	✗	✗	✗	✓	✓
CSS list-style-square	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CSS margin	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CSS padding	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Issue: Bullet lists in Outlook 2007

In Outlook 2007, lists with inline CSS margins do not render properly when defined explicitly using CSS attributes.



Recommendation:

If you need to explicitly define a margin for your list , Outlook 2007 will interpret those margins differently than other email clients. Here is a solution: Define the margin of the ul element in a style tag (This will work almost everywhere except Gmail & NetZero, which will revert to their defaults due to lack of style tag support.) Outlook 2007 can then be handled conditionally, by using a conditional comment "hack". (See "if gte mso 9" example below. This means "Greater than or equal to Microsoft Office 9") Inside the comments you can set unique definitions for Outlook 2007. The trade off here is you get control over Outlook 2007, but you get the default style in Gmail due to Gmail's lack of support for style tags.



Example:

```
<style type="text/css">
ul {
  margin: 0px;
  padding: 0px;
}
</style>
<!--[if gte mso 9]>
<style>
ul {
  margin: 0px 0px 0px 24px;
  padding: 0px;}
</style>
<![endif]-->
```

Styling Bullet Lists (continued)

Issue: Images as bullets

The List-style-image attribute will not always render correctly.

Affected Email Clients: Hotmail, Lotus Notes, Mac Mail, NetZero, Outlook 2007



Recommendation 1 (preferred):

Avoid List Images.



Recommendation 2:

If your bullet list absolutely needs custom bullets then it is best to set up your bullet list as a nested table, using a 2 column row per each item with the custom image bullets in the first column and the item text in the second. This is tedious and can be difficult to update and manage, and the other caveat to this solution is that your custom image bullets will be blocked by default in most email clients.

Images

	AOL 9	AOL.com	Gmail	Live HotMail	Lotus Notes	.Mac Mail	NetZero	Outlook 2007	Yahoo Classic	Yahoo Mail
Image Spacing 										
CSS margin	✓	✓	✓	⚠*	✗	✓	✓	✗	✓	✓
HTML hspace and vspace	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓
Animated GIFs (.gif)										
Supported	✓	✓	✓	✓	✓	✓	✓	⚠**	✓	✓
Image Maps <map>										
Links functional with images enabled	✓	✓	⚠***	✓	✓	✓	✓	✓	✓	✓
Links functional with images disabled	✓	✓	⚠***	✗	✓	✓	✓	✓	✗	✗
Image Blocking										
External images are blocked by default	✓	✓	✓	✓	✗	✓	✗	✓	✗	✓
User controls image-blocking settings	✓	✓	✓	✗	✓	✓	✓	✓	✓	✓
User clicks link to enable message's images	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Alt tags displayed when images disabled	✗	N/A	✓	✗	N/A	✓	N/A	✓	✓	✓

* Hotmail will not render the CSS attribute: padding-top
 ** Outlook 2007 will render the 1st frame of an animated gif only
 *** Gmail with the Safari browser will not render image maps

Issue: Image blocking

Most email clients (see table above) will block images by default, forcing the subscriber to click a button to show the images.

Recommendation 1:

Be sure to make as much of your pertinent message content (call to action, links, price point, offer value etc...) available as formatted HTML text.

Recommendation 2:

If the images convey important content, use alt tags to give a brief description for each image.

Images (continued)

Issue: Image compression

Even with today's fast internet connections, there still may be a concern with load time of large images. This is especially true if the subscriber is using a slow connection.



Recommendation:

Images should be saved as either .gif or .jpg depending on the type of image. Logos and illustrations should normally be saved as .gif with a maximum color count of 64. Photos or other pictures should generally be saved as .jpg with a compression between 60 and 70.

Issue: Image sizes and slices

If the email is going to contain large images, some would argue that it is better to slice these images into smaller pieces to facilitate faster load times for slow connections whereas others would argue that fewer requests for larger images can be more efficient for load times on faster connections.



Recommendation:

If you would like separate parts of one image to have different links, it is better to slice the images and assign links to those pieces.

Issue: Image maps

Image maps do not render correctly when using Gmail in the Safari browser.



Recommendation:

Avoid image maps. Instead, slice the image into multiple parts and assign links to each desired part.

Images (continued)

Issue: Margins on images

Margins applied to the tag using the CSS margins attribute do not render correctly. Also Outlook 2007 doesn't support the hspace or vspace attributes.



Recommendation:

Create the negative space around the image itself when cropping it in your image editing program.

Issue: Animated GIFs

In Outlook 2007, animated GIFs do not render and show only the first frame of the animation.



Recommendation:

Make sure the first frame of the animation displays all of the critical content the image is conveying since Outlook 2007 will load the first frame only. Any subsequent frames should be considered a "nice to have". Animation can be a great way to enhance an email message if used tastefully and sparingly.

Design “Don’ts”

In addition to the above recommendations, there is code that should be avoided all together due to the limited support in email clients.

Code to Avoid:

- Flash
- Forms
- JavaScript
- I-Frames

These code elements present a multitude of problems when rendered in email clients. It is best to direct a subscriber to a web page where these elements can be used successfully.

Test Your Message

Check your template by launching test campaigns to as many email clients as possible. When it comes to proofreading, sharing the responsibility with more than one person is a good idea as well. It's usually not the best idea for the person who created the email to be responsible for the proofing! Be sure to take advantage of both the HTML Design Consultant and the SureSend Message Rendering Reports in the BlueHornet application.

A few email clients to consider when creating test accounts:

Desktop Clients

- AOL
- Outlook 2007
- Lotus Notes Version 6 and newer has mixed results with HTML. (Version 5 and older will get pretty poor rendering results)

Hosted Email Clients

- Windows Live/Hotmail
- Yahoo! Mail
- Yahoo! Mail beta
- Gmail
- AOL
- NetZero
- .Mac (MobileMe)

Conclusion

We hope that by following these recommendations you are able to achieve consistent design rendering across all of the major email clients. Remember, the key to your success is testing! Also remember, that sometimes there can be “give and take” with rendering. In order to get your design to render exactly as you wish, you might have to accept perfect results in most of the email clients, and really good results in the rest. With patience, practice and diligence you should be able to arrive at a design methodology that will work best for your brand.

This document is a work in progress and will be updated regularly, as the level of support for HTML in email clients evolves.