Layout Tests

- How do you test a rendering engine?

http://webkit.org/quality/testwriting.
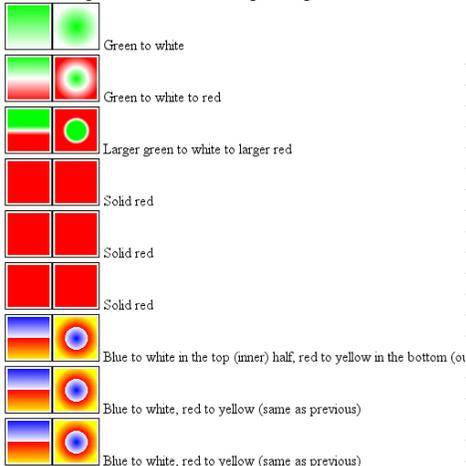html

Layout Tests

- Just web pages
- Every checkin to WebKit needs a test
- Over 21,000 tests and growing

Each square canvas should contain a colored gradient bordered by a narrow white margin and a black line. The column on the left contains linear gradients, the column on the right radial gradients.

Green to white

Green to white to red

Larger green to white to larger red

Solid red

Solid red

Solid red

Blue to white in the top (inner) half, red to yellow in the bottom (ou

Blue to white, red to yellow (same as previous)

Blue to white, red to yellow (same as previous)

The style declarations which apply to the text below are:

```
BODY {font-size: 12px;}
.one {font: italic small-caps 13pt Helvetica;}
.two {font: 150%/150% serif;}
.three {font: 150%/150% sans-serif;}
.four {font: small/200% cursive;}
.five {font: italic small-caps 900 150%/150% sans-serif;}
.six {font: italic small-caps 100 150%/300% sans-serif;}
.seven {font: italic small-caps 900 150%/2em monospace;}
.eight {font: italic small-caps 500 150%/1in sans-serif;}
.nine {font: oblique normal 700 18px/200% sans-serif;}
.ten {font: normal 400 80%/2.5 sans-serif;}
SPAN.color {background-color: silver;}
```

This element is unstyled, and should inherit a font-size of 12px from the BODY element. This is the "base font size" referred to in the follo

THIS ELEMENT SHOULD BE 13PT. HELVETICA WHICH IS IN SMALL-CAP ITALICS.

This element should be in a serif font. Its font-size should be 150% the base font size, and it should 150% of that value (18px and 27px, respectively). Extra text is included for the purpo this more effectively.

This element should be in a sans-serif font. Its font-size should be 150% the base fo its line-height should 150% of that value (18px and 27px, respectively). Extra text is the purposes of testing this more effectively.

This element should be in a cursive font, 'small' in size, with a line-height 200% the height of the text's actua example, if the font-size value small is calculated at 10px, then the line-height should be 20px. The actual value of the font-size is UA-dependent. Extra text is included for the purposes of testing this more effectively.

Tests for the parseFloat function.

On success, you will see a series of "PASS" messages, followed by "TEST COMPLETE".

```
PASS parseFloat() is NaN
PASS parseFloat('') is NaN
PASS parseFloat(' ') is NaN
PASS parseFloat(' 0') is 0
PASS parseFloat('0 ') is 0
PASS parseFloat('x0') is NaN
PASS parseFloat('0x') is 0
PASS parseFloat(' 1') is 1
PASS parseFloat('1 ') is 1
PASS parseFloat('x1') is NaN
PASS parseFloat('1x') is 1
PASS parseFloat(' 2.3') is 2.3
PASS parseFloat('2.3 ') is 2.3
PASS parseFloat('x2.3') is NaN
PASS parseFloat('2.3x') is 2.3
PASS parseFloat('0x2') is 0
PASS parseFloat('1' + nonASCIINonSpaceCharacter) is 1
PASS parseFloat(nonASCIINonSpaceCharacter + '1') is NaN
PASS parseFloat('1' + illegalUTF16Sequence) is 1
PASS parseFloat(illegalUTF16Sequence + '1') is NaN
PASS parseFloat(tab + '1') is 1
PASS parseFloat(nbsp + '1') is 1
PASS parseFloat(ff + '1') is 1
PASS parseFloat(vt + '1') is 1
PASS parseFloat(cr + '1') is 1
PASS parseFloat(lf + '1') is 1
PASS parseFloat(ls + '1') is 1
PASS parseFloat(ps + '1') is 1
PASS parseFloat(oghamSpaceMark + '1') is 1
PASS parseFloat(mongolianVowelSeparator + '1') is 1
PASS parseFloat(enQuad + '1') is 1
PASS parseFloat(emQuad + '1') is 1
PASS parseFloat(enSpace + '1') is 1
PASS parseFloat(emSpace + '1') is 1
```

Relevance to Web Developers

- Good to add to bug reports for clarity and faster fixes.

- Good to look at for example usage of APIs.

- Provides a record of what's supported by the browser — but watch out for "skipped" tests.

Example

```html
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN"
"http://www.w3.org/TR/html4/strict.dtd">
<html>
 <head>
  <title>HTML 4.01/CSS 2.1 Test: white-space (for complex text)</title>
  <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
  <link rel="help" href="http://www.w3.org/TR/CSS21/text.html#white-space-prop"
title="16.6 Whitespace: the 'white-space' property">
 </head>
 <body>
  <p>This HTML tests if the 'while-space' property controls the behaviors of line-
break characters (U+000A and U+000D) in a complex text.</p>
  <p>If this test succeeds, you can see three words
"&#x05E9;&#x05D5;&#x05BC;&#x05E8;&#x05D4;", separated with line-break.</p>
  <p style="white-space:
pre;">&#x05E9;&#x05D5;&#x05BC;&#x05E8;&#x05D4;&#x000A;&#x05E9;&#x05D5;&#x05BC;&#x05
E8;&#x05D4;&#x000D;&#x05E9;&#x05D5;&#x05BC;&#x05E8;&#x05D4;</p>
 </body>
</html>
```

fast/text/international/bidi-linebreak-001.html

Example

This HTML tests if the 'while-space' property controls the behavors of line-break characters (U+000A and U+000D) in a complex text.

If this test succeeds, you can see three words "שורה", separated with line-break.

שורה
שורה
שורה

platform/mac/fast/text/international/bidi-linebreak-001-expected.png

Example

Each square canvas should contain a colored gradient bordered by a narrow white margin and a black line. The column on the left contains linear gradients, the column on the right radial gradients.

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Blue to white, red to yellow (same as previous)

fast/canvas/fillrect_gradient.html

layoutTestController

if (window.layoutTestController)
   layoutTestController.dumpAsText()

http://trac.webkit.org/wiki/Writing Layout Tests for DumpRenderTree

Example

```
<body>
<p>Test for <a href="http://bugs.webkit.org/show_bug.cgi?id=16421">bug 16241</a>:
REGRESSION(r28669): Page scrolls down when you hit space key in text area.</p>
<p>To test manually, press Space - the page should not scroll.</p>
<div style="width:1;height:5000"></div>
<script>
document.onkeypress=function(){return false;}
document.onscroll=function(){alert("FAIL - scrolled!");}

if (window.layoutTestController) {
    layoutTestController.dumpAsText();
    eventSender.keyDown(" ", []);
}
</script>
</body>
```

fast/events/space-scroll-event.html

Example

Test for bug 16241: REGRESSION(r28669): Page scrolls down when you hit space key in text area.

To test manually, press Space - the page should not scroll.

fast/events/space-scroll-event-expected.txt

Running Layout Tests

	WebKit	Chromium
How to run layout tests	Run script at: WebKitTools/Scripts /run-webkit-tests	http://dev.chromium.org/ developers/testing/ webkit-layout-tests

Getting involved

- WebKit is Open Source.

- Get the code: www.webkit.org

- Building WebKit: http://webkit.
org/building/build.html

- IRC: #webkit on freenode.

- Start small: Layout tests, Web Inspector
(written in JS)

Useful Info

- http://quirksmode.org/

- http://trac.webkit.org/wiki/WebDevelopers

Q&A