

# Developing for IE

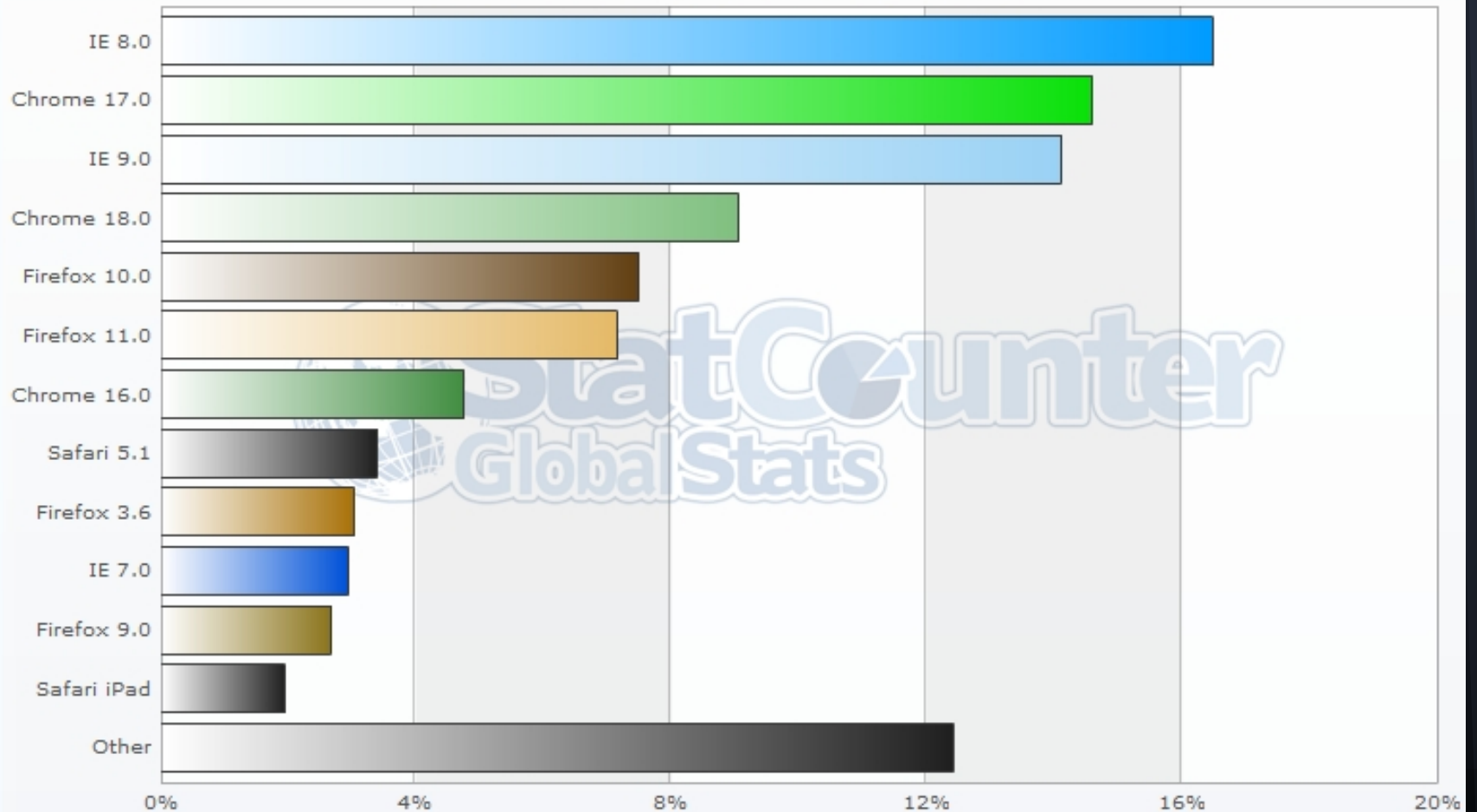
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# About IE



# Why we care at all...

StatCounter Global Stats  
Top 12 Browser Versions from Feb to Apr 2012



# History of IE

- IE6: August 27, 2001
  - IE7: October 18, 2006
  - IE8: March 19, 2009
  - IE9: March 14, 2011
- 
- Google supports IE7+
  - Facebook supports IE8+
  - Amazon supports IE7+

# Testing IE Compatibility

This is best described with pseudo-code

```
if (you_use_windows) {
    if (need_to_support <= IE6 ||
        !you_have(IE9)) {
        use IETester
    } else {
        use IE9 developer tools
    }
} else {
    throw exception("good job though")
}
```

# Using IE Developer Tools

## System Overview

The **Browser Mode** sets the default for how web content is handled. Developers and Users change this through:

- **F12 Developer Tools**
- **Compatibility View button**



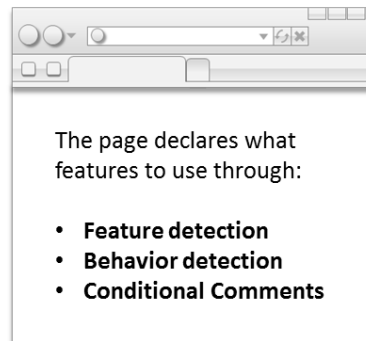
IE tells the site its version through the **User Agent (UA) String** as defined by the Browser Mode.



The site responds with the **Document Mode** it wants to be rendered in by using the appropriate:

- **Doctype**
- **X-UA-Compatible** value

The Browser Mode determines the default Document Mode.



The page declares what features to use through:

- **Feature detection**
- **Behavior detection**
- **Conditional Comments**

# IE Issues



# select default value (demo)

```
<script>
  window.onload = function() {
    document.getElementById('btn').onclick =
      function() {
        var select =
          document.getElementsByTagName('select')[0];
        alert("Value: " + select.value);
      };
  }
</script>
<select>
  <option>100</option>
  <option>200</option>
</select>
<button id="btn">Show Value</button>
```

Workaround: None, be nice to IE, it's a little slow unless you define the `value` attribute explicitly.



# list-style-type ([demo](#))

```
<!DOCTYPE html>
<html>
  <body>
    <ol style="list-style-type: lower-latin;">
      <li>Stuff</li>
      <li>Stuff</li>
      <li>Stuff</li>
    </ol>
  </body>
</html>
```

Workaround: lower-latin is lower-alpha all the way until IE8. Same with upper-latin.

# favicon (demo: [gif](#), [png](#))

```
<!DOCTYPE html>
<html>
  <head>
    <link href="favicon.ico"
          rel="shortcut icon" />
  </head>
  <body>
    <p>Derp</p>
  </body>
</html>
```

Workaround: You must use a favicon.ico file instead (even in IE9!)

# const (demo)

```
<!DOCTYPE html>
<html>
  <head>
    <script>
      const PI = 3.14;
      var radius = 10;
      alert(2 * PI * radius);
    </script>
  </head>
  <body></body>
</html>
```

Workaround: None, just use a `var` with an all caps name as the convention. (even in IE9!)

# document.getElementById ([demo](#))

```
<script>
  window.onload = function() {
    var element = document.getElementById('fake');
    if (element) {
      alert(element.nodeName);
    } else {
      alert("not found");
    }
  }
</script>
<input type="input" name="fake" />
```

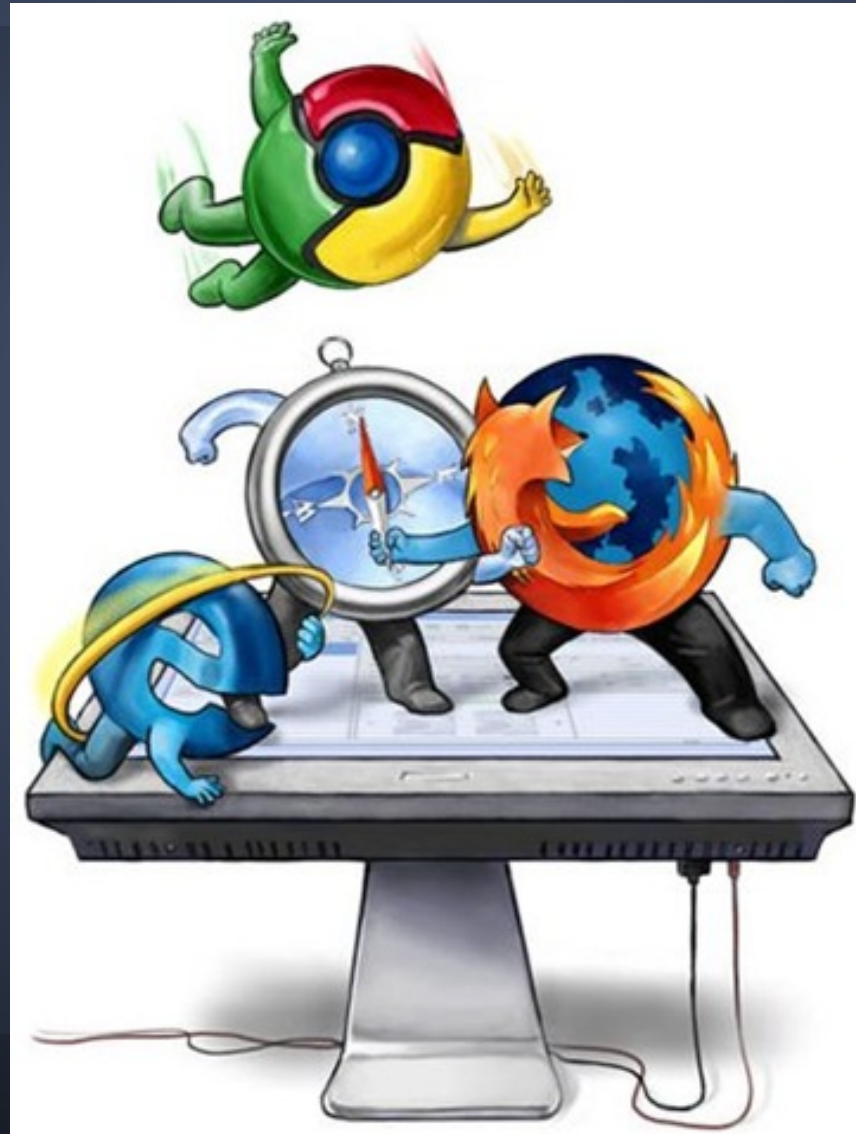
# getElementById Workarounds

- Use `getElementsByTagName`, iterate over results and check for the id you wanted

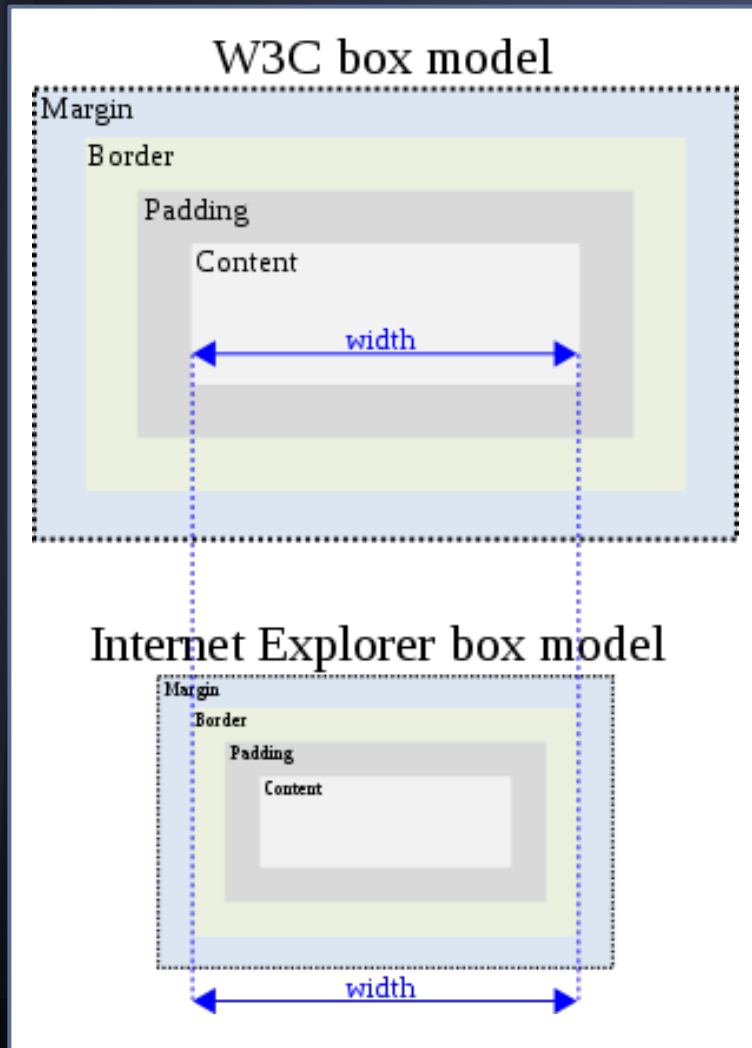
```
var elems = document.getElementsByTagName("p");
var element= null;
for (var i = 0; i < elems.length; i++) {
    if (elems[i].getAttribute("id") == "description") {
        element = elems[i];
        break;
    }
}
```

- Redefine the `getElementById` function manually to something that works

IE CSS is broken in many ways



# IE6 and below Box Model



Luckily this is no longer the case in IE7+,

yet...

# box model bug 1 ([demo](#))

```
<style>
  div {
    width: 600px;
    margin: auto;
    border: 1px solid red;
  }
  p {
    width: 325px;
  }
  #p1 {
    float: left;
    border: 1px solid green;
  }
  #p2 {
    float: right;
    border: 1px solid green;
  }
</style>
```



# box model bug 2 ([demo](#))

```
<style>
  div {
    width: 100px;
    height: 100px;
  }
  #red {
    background-color: red;
    overflow: hidden;
  }
  #green {
    background-color: green;
    top: 100px;
    left: 100px;
    position: relative;
  }
</style>
```

# box model bug 3 ([demo](#))

```
<style>
  div {
    width: 50%;
    height: 100px;
    background-color: green;
  }
  #floater {
    float: right;
  }
</style>
```

# WTF, come on IE!!! ([demo](#))

```
<style>
  #container { width: 400px; }
  p { margin: 64px; }
  #container a {
    border: 1px solid green;
    float: left;
    width: 100px;
  }
</style>
<div id="container">
  <p>
    <a href="#">A</a>
    <a href="#">B</a>
    <a href="#">C</a>
  </p>
</div>
```

# Techniques for developing for IE



# Use bugs to fix bugs ([demo](#))

- Use CSS selectors that only IE will recognize
  - IE6-: `* html {}`
  - IE7: `*:first-child+html {}`
  - IE7+: `html>body {}`
    - More recent than IE7: `html>/**/body {}`
- Use CSS styles that only IE7- will recognize
  - `*height` (in general `*style-name`)
  - `!ie` instead of `!important`

# CSS Conditional Comments ([demo](#))

This is the preferred way to develop for IE client-side since it maintains valid CSS and HTML. Only IE will interpret these comments.

```
<head>
  <link rel="stylesheet" type="text/css"
    href="styles.css" />
  <!--[if lte IE 7]>
  <link rel="stylesheet" type="text/css"
    href="ie7hacks.css" />
  <![endif]-->
</head>
```

# User-Agent Request Header

Every web request (GET or POST) comes with many headers including User-Agent. The server can return different things based on the User-Agent header of the request.

## User-Agent:

- `Mozilla/5.0 (compatible; MSIE 9.0; Windows NT 6.1; Trident/5.0)`
- `Mozilla/5.0 (Windows NT 6.1) AppleWebKit/535.19 (KHTML, like Gecko) Chrome/18.0.1025.168 Safari/535.19`
- `Mozilla/5.0 (Windows NT 6.1; WOW64; rv:15.0) Gecko/20120427 Firefox/15.0a1`

Summary - IE makes our job hard

**ACCIDENTALLY OPEN  
INTERNET EXPLORER**

**OH**



**GOD**