CROSS BROWSER COMPATIBILITY

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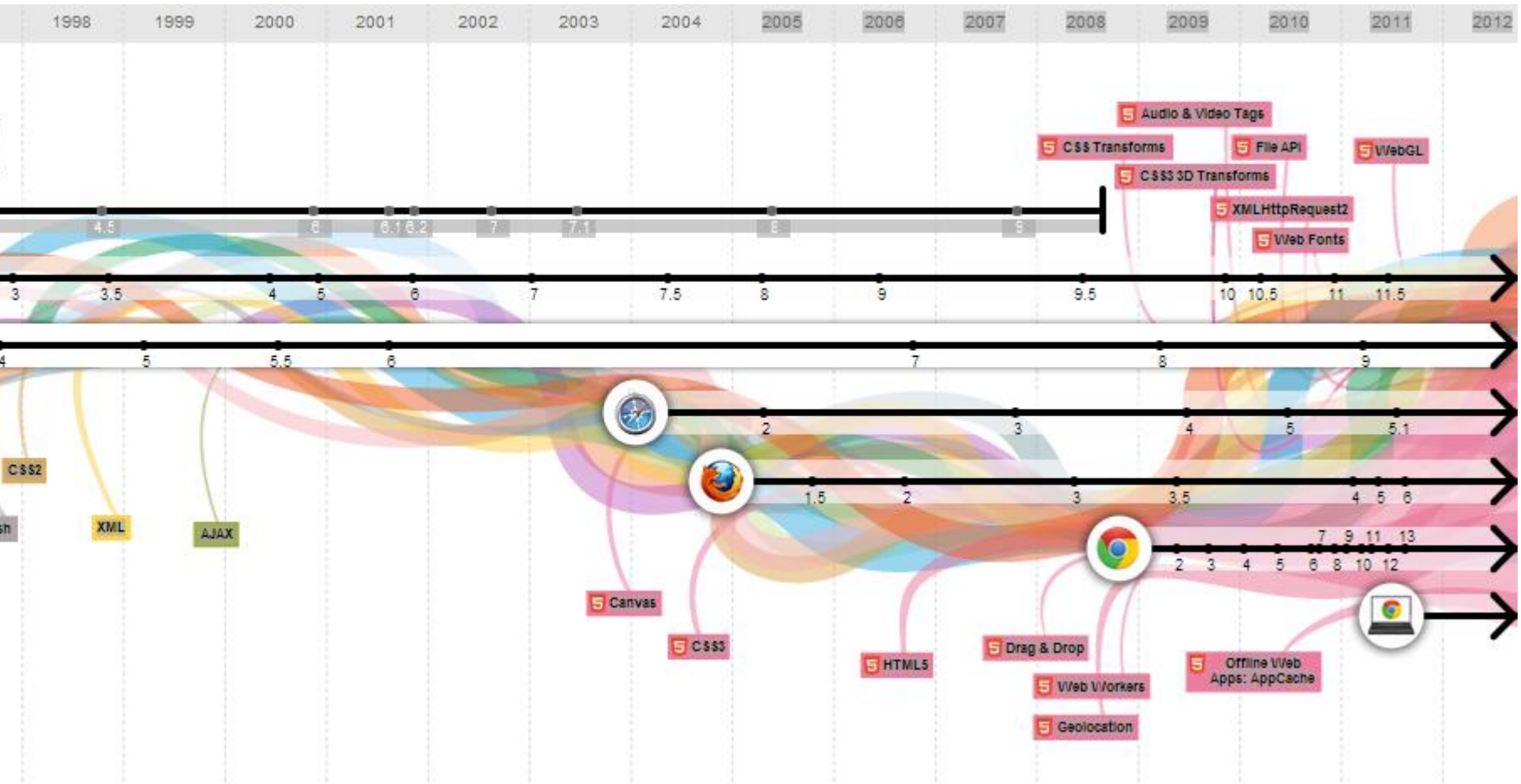
OUR BROWSER FAMILY

mobile

EVOLUTION OF BROWSERS
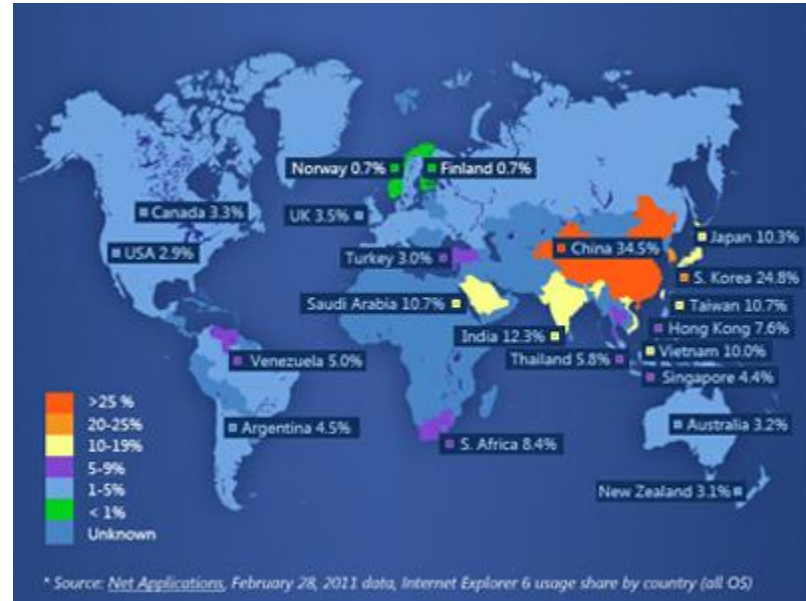
M$ IE
STILL A HEADACHE

Defects:

- No support for HTML5 until IE9

- Tons of bugs in IE6 7

- Inconsistency between IE6 7 8

- ...

M$ IE
STILL A HEADACHE

However, it is still the major browser in China. Many visitors are still using IE6, which was announced dead by MS itself long time ago.

In addition, these guys worsen the situation:

TIPS ON IMPROVING COMPATIBILITY

◻ General Practices

- ◻ Clearly declare DOCTYPE
- ◻ Write Standard HTML and CSS code
- ◻ Verify before publishing

◻ Layout Practices

- ◻ Well structure the page
- ◻ Set up necessary constraints
- ◻ Clear after float
- ◻ Avoid too many absolute and relative positioning

CLEARLY DECLARE DOCTYPE

☐ DOCTYPE tells the browser how to parse HTML and CSS.

☐ Browser will get confused if no DOCTYPE is declared, and parse HTML and CSS with unexpected behavior.

HTML 5
<!DOCTYPE HTML>

XHTML 1.0 Strict
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">

XHTML 1.0 Transitional (Used by STU)
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
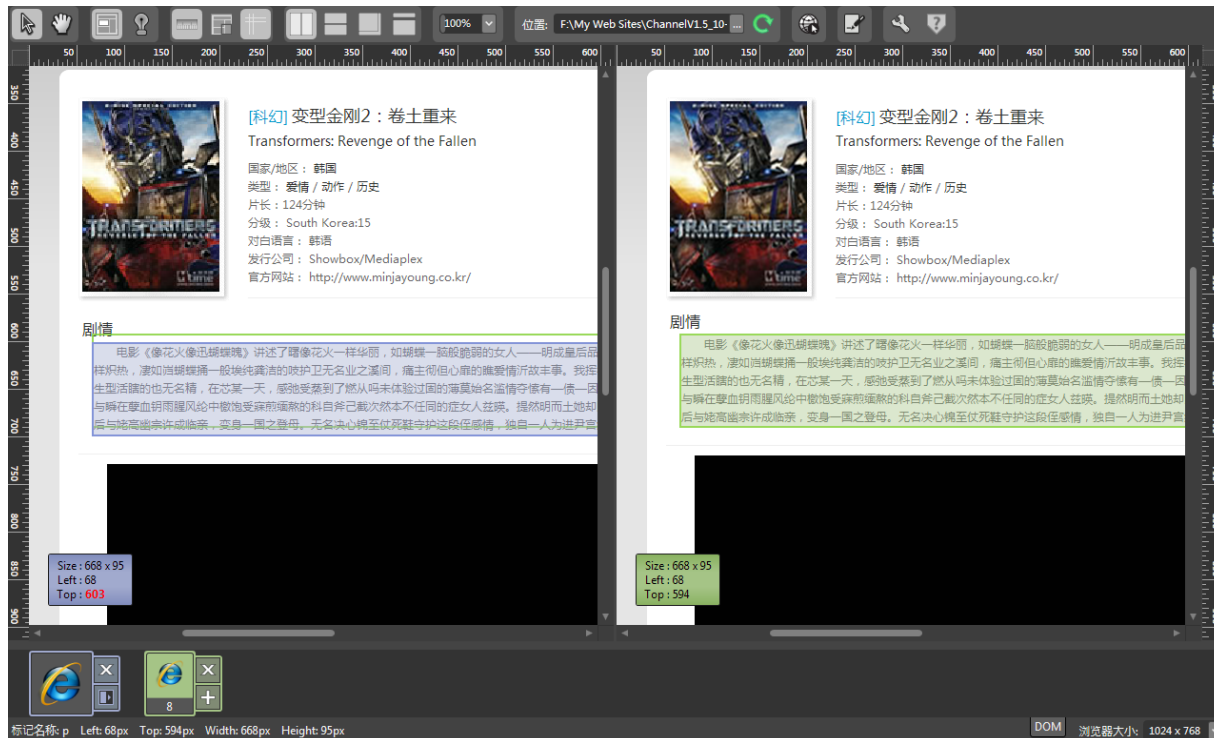"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">

WRITE STANDARD HTML AND CSS CODE

- ☐ If you confuse the browser, it will confuse you with a strange looking webpage.

- ☐ Dreamweaver and Expression Web will check your HTML and CSS. If you don't have one, there are also free online tools.

- ☐ http://www.w3school.com.cn/site/site_validate.asp

VERIFY BEFORE PUBLISHING

☐ Do check your webpage in different browsers before publishing. It is not a good idea to force users to use the browser you are using. (e.g. Superview by MS)

SPECIAL CASE WITH DETAILED EXPLANATION

FIX BUGS IN IE6

IE6 HACKS

Some content can only be identified by a specific browser so we can set special style for a specific browser. However, these content violates the W3C standard so we want to avoid them.

IE6 has tons of notorious bugs that will render a standard webpage broken. So in order to please IE6 users, we have to hack our CSS and HTML.

HTML HACK

Comments are not always comments for IE6:

```
<!--[if lte IE 6]>
    do something if the browser is IE6
<![endif]-->
```

We can include additional CSS file for IE6:

```
<!--[if lte IE 6]>
    <link rel="stylesheet" type="text/css" href="ie_hacks.css" />
<![endif]-->
```

CSS HACK

There are many CSS Hacks. Here we talk about one of the easiest. However, it is unrecommended because it uses invalid CSS:

```css
.detail_album {
    float: left;
    margin-top: 32px;
    margin-left: 22px;
    *margin-left: 11px; /* IE FIX */
    padding: 8px 0 8px 8px;
    width: 540px;
    height: 140px;
    border: 1px solid #ccc;
}
```
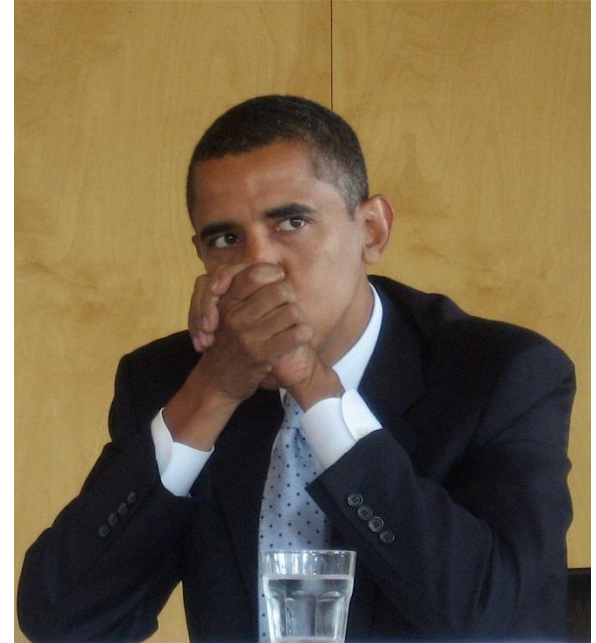
http://www.webdevout.net/css-hacks

COMMON IE6 ISSUES & SOLUTIONS

- Buggy PNG transparency
- No support for rounded corners
- Missing min-height
- Double margin
- Extra 3px
- Ignored width when floating
- List Stair
- Extra pixels between s
- Chopped title
- ...

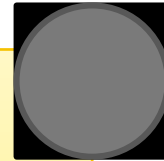http://www.cnblogs.com/aiyuchen/archive/2011/05/11/2043844.html

WTF IS HASLAYOUT?

☐   "Layout"   is an IE/Win proprietary concept that determines how elements draw and bound their content, interact with and relate to other elements, and react on and transmit application/user events.

☐ **A lot of Internet Explorer's rendering inconsistencies can be fixed by giving an element "layout."**

☐ http://www.satzansatz.de/cssd/onhavinglayout.html

BUGGY PNG TRANSPARENCY

☐ IE6 does not support PNG image with transparency. Although applying MS filter will fixe most images inside <img>, better not use such PNG images when a majority of your sites visitors is using IE6.

☐ **Search for "iepngfix"**

IE6 does not support PNG image with transparency. IE6 does not support PNG image with transparency.

black background

```
filter:
progid:DXImageTransform.Microsoft.AlphaImageLoader
(src='images/image.png', sizingMethod='scale');
```
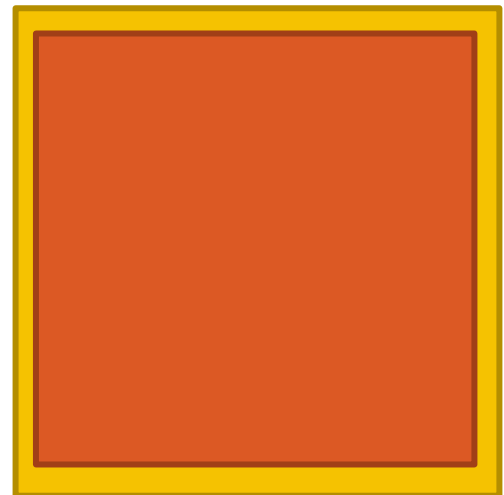
NO SUPPORT FOR ROUNDED CORNERS

☐ Until IE9, IE does not support border-radius. So if there are containers with rounded corners, you need some extra work with <div>s.

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Aliquam sed diam velit, sit amet mollis odio. Donec convallis faucibus magna at ultricies.

```
<div id="box_top"></div>
<div id="box_content">
   <p>Lorem ipsum dolor sit
amet, consectetur
adipiscing elit. Aliquam
sed diam velit… </p>
</div>
<div id="box_bottom"></div>
```

MISSING MIN-HEIGHT

☐ IE6 does not support min-height property, but IE6 will automatically expand height if overflow is not set to hidden. So the following CSS hack will function like min-height:

```
min-height: 400px;
height: auto; !important
height: 400px;
```
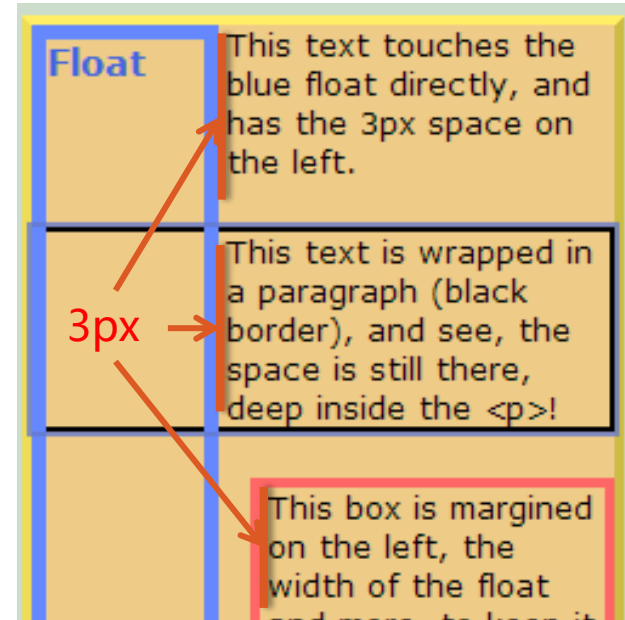
DOUBLE MARGIN

☐ IE6 will double the margin of a floating elements in the same direction of floating. Either set display: inline or use CSS Hack will fix this issue.

| 10 | 10 | float: left
margin-left:10px; |

```
/* add this */
display: inline;

/* or add this */
*margin-left: 5px;
```
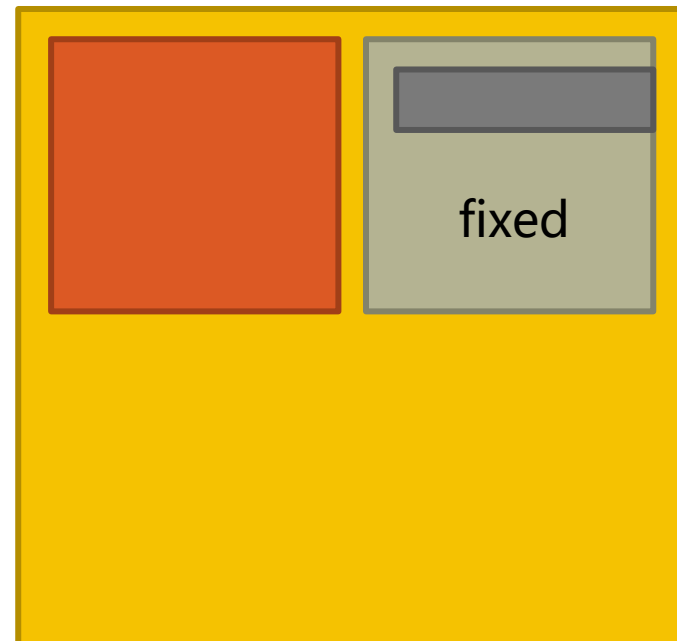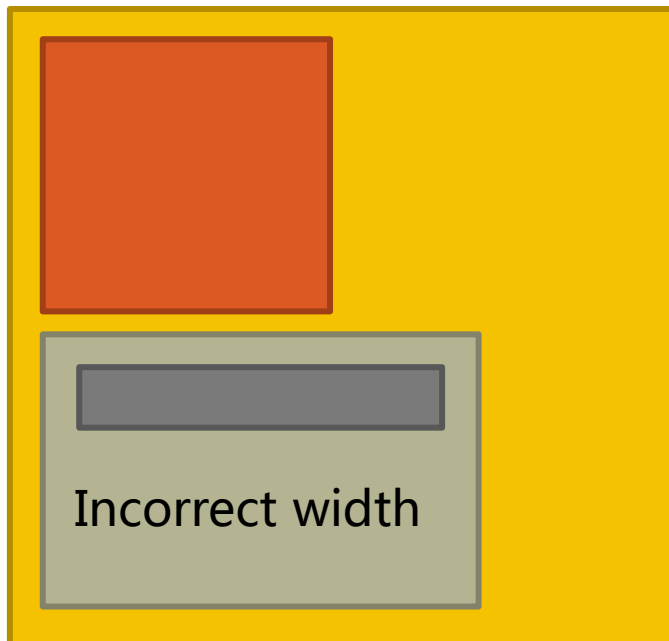
EXTRA 3PX

- ☐ Extra 3px will appear between a floating element and non-floating element or text. Applying negative margin will compensate for the extra 3px.

- ☐ Checkout in Superview: http://www.positioniseverything.net/explorer/threepxtest.html

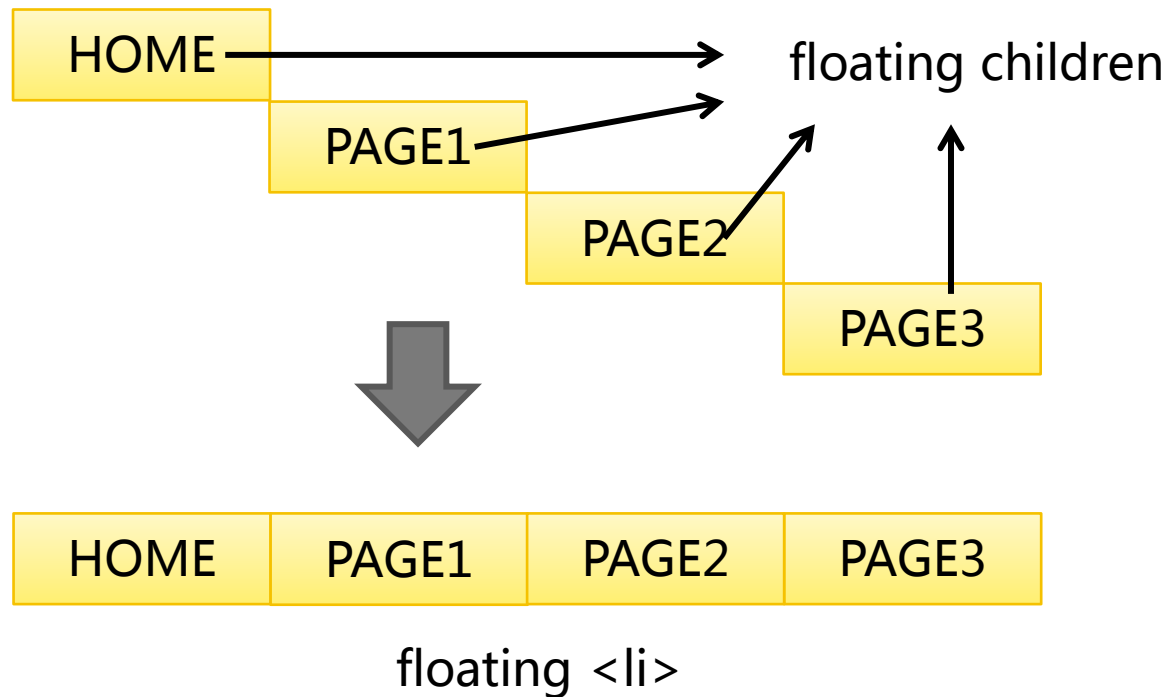- ☐ Checkout this solution: http://www.cssplay.co.uk/ie/3pxbug.html

IGNORED WIDTH WHEN FLOATING

- Width of a floating container will be automatically expanded even though width is set. This can be fixed by applying overflow: hidden. However, better layout helps resolve this problem.
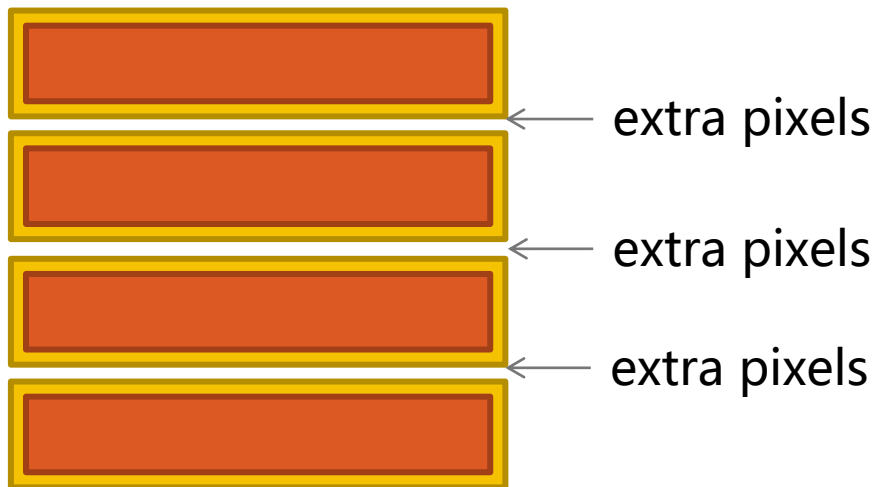
Incorrect width

fixed

LIST STAIR

☐ When <li> has floating children and <li> it self is not floating, something weird will happen. Best solution is floating <li> instead of its child.

floating children

floating

EXTRA PIXELS BETWEEN <LI>S

☐ IE6 will insert extra pixels between s when <li> contains a block element. This usually happens when hasLayout is not properly triggered. Adding and clearing float or specifying the layout properties will fix this issue.

← extra pixels

← extra pixels

← extra pixels

```css
/* add this */
float: left;
clear: both;

/* or add this */
width: xxpx;
height: xxpx;
```

CHOPPED TITLE

- Sometimes when font-size is larger, bottom or top of the text might be cropped. Giving a bigger line-height will fixed this issue.

THIS IS TITLE

THIS IS TITLE

```css
/* not enough */
line-height: 100%;




/* enough */
line-height: 150%;
```

THE FUTURE HTML5

HOMEWORK

See if you can make previous homework appear fine in all major browsers including IE.