

the design
of HTML5

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design principles

*We hold these Truths to be self-evident,
that all Men are created equal,
that they are endowed by their Creator with
certain unalienable Rights,
that among these are
Life, Liberty and the pursuit of Happiness.*

—The Declaration Of Independence,
1776-07-04

*From each according to his ability,
to each according to his need.*

—Karl Marx,
1875

Do unto others as you would have them do unto you.

—Jesus of Nazareth,
~30AD

Four legs good, two legs bad.

—George Orwell,
Animal Farm

A robot may not injure a human being or, through inaction, allow a human being to come to harm.

A robot must obey any orders given to it by human beings, except where such orders would conflict with the First Law.

A robot must protect its own existence as long as such protection does not conflict with the First or Second Law.

—Isaac Asimov,
I, Robot

*Principles such as simplicity and modularity
are the stuff of software engineering;
decentralisation and tolerance
are the life and breath of Internet.*

—Tim Berners-Lee,
Principles of Design

HTML 2.0	1995
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HTML 3.2	1997
-----------------	-------------

HTML 4.0	1997
-----------------	-------------

HTML 4.01	1999
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XHTML 1.0

2000

XHTML 1.1

2001

XHTML 2

*Be conservative in what you send;
be liberal in what you accept.*

—Jon Postel,
The Robustness Principle

WHATWG

2004

W3C

2007

HTML5

the design
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This document describes the set of guiding principles used by the HTML Working Group for the development of HTML5. The principles offer guidance for the design of HTML in the areas of compatibility, utility and interoperability.

—HTML Design Principles
w3.org/TR/html-design-principles

avoid needless complexity

Simple solutions are preferred to complex ones,
when possible.

HTML 4.01

```
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01//EN"  
  "http://www.w3.org/TR/html4/strict.dtd">
```

XHTML 1.0

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

HTML5 <!DOCTYPE html>

HTML 4.01

```
<meta http-equiv="Content-Type"  
content="text/html; charset=utf-8">
```

XHTML 1.0

```
<?xml version="1.0" encoding="UTF-8"?>  
<meta http-equiv="Content-Type"  
content="text/html; charset=utf-8" />
```

HTML5 <meta charset="utf-8">

```
<link rel="stylesheet" type="text/css"  
href="file.css">
```

```
<script type="text/javascript">  
</script>
```

HTML5

support existing content

Existing content often relies upon expected user agent processing and behaviour to function as intended.

**
<p class="foo">Hello world</p>**

**
<p class="foo">Hello world**

**
<P CLASS="foo">Hello world</P>**

**
<p class=foo>Hello world</p>**

*Be conservative in what you send;
be liberal in what you accept.*

—Jon Postel,
The Robustness Principle

solve real problems

Abstract architectures that don't address an existing need are less favoured than pragmatic solutions to problems that web content faces today.

(X)HTML

```
<h2><a href="/path/to/resource">Headline text</a></h2>  
<p><a href="/path/to/resource">Paragraph text.</a></p>
```

HTML5

```
<a href="/path/to/resource">  
<h2>Headline text</h2>  
<p>Paragraph text.</p>  
</a>
```

**pave the
cowpaths**

section

article

aside

nav

header

footer

details

figure

```
<body>  
<div id="header">...</div>  
<div id="navigation">...</div>  
<div id="main">...</div>  
<div id="sidebar">...</div>  
<div id="footer">...</div>  
</body>
```

```
<body>  
<header>...</header>  
<nav>...</nav>  
<div id="main">...</div>  
<aside>...</aside>  
<footer>...</footer>  
</body>
```

section

article

aside

nav

header

footer

details

figure

```
<div class="item">  
<h2>...</h2>  
<div class="meta">...</div>  
<div class="content">  
  
...  
</div>  
<div class="links">...</div>  
</div>
```

```
<section class="item">  
<header><h1>...</h1></header>  
<footer class="meta">...</footer>  
<div class="content">  
  
...  
</div>  
<nav class="links">...</nav>  
</section>
```



```
<section class="item">
<header><h1>...</h1></header>
<footer class="meta">...</footer>
<div class="content">
...
</div>
<nav class="links">...</nav>
</section>
```

I would in fact prefer, instead of <H1>, <H2> etc for headings to have a nestable <SECTION>..</SECTION> element, and a generic <H>..</H> which at any level within the sections would produce the required level of heading.

—Tim Berners-Lee,
1991

degrade gracefully

HTML 5 document conformance requirements should be designed so that Web content can degrade gracefully in older or less capable user agents, even when making use of new elements, attributes, APIs and content models.

input type="number"

input type="search"

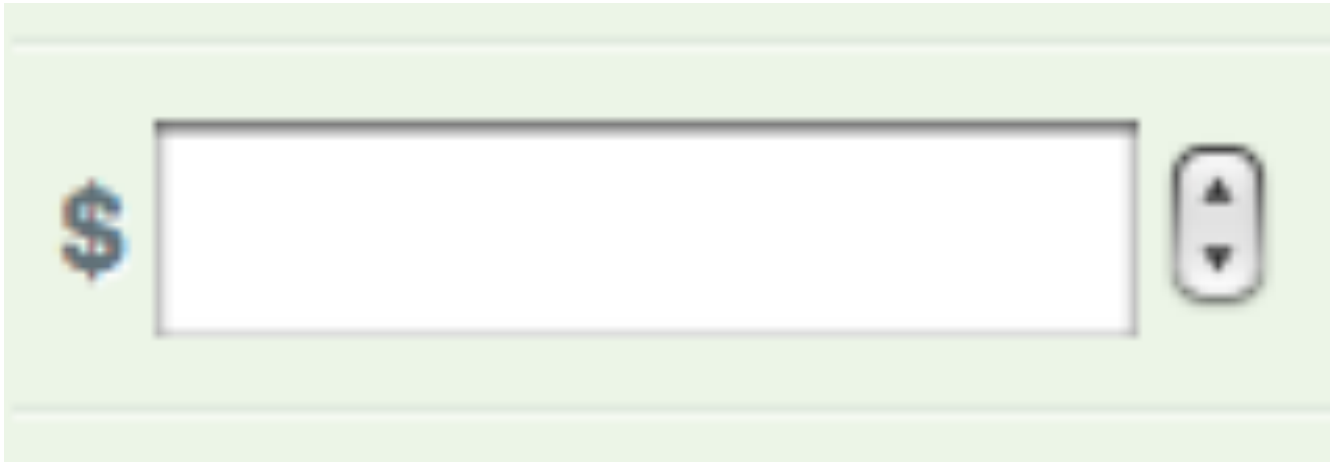
input type="range"

input type="email"

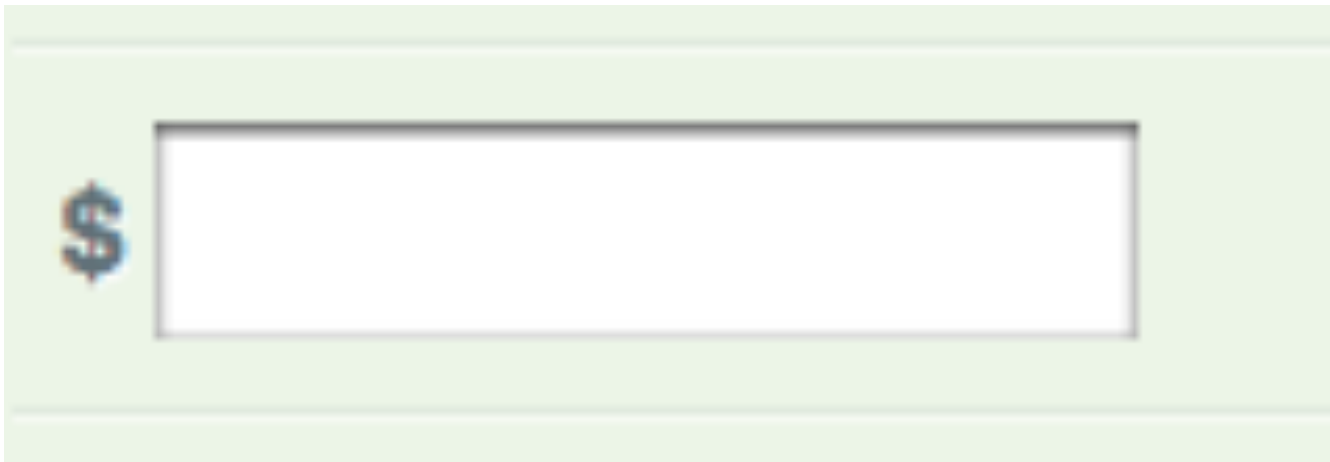
input type="date"

input type="url"

input type="number"



A screenshot of a web form with a light green background. It features a white rectangular input field. To the left of the field is a blue dollar sign icon. To the right of the field is a vertical spinner control with up and down arrows.



A screenshot of a web form with a light green background, similar to the one above. It features a white rectangular input field. To the left of the field is a blue dollar sign icon. Unlike the top image, there is no spinner control to the right of the field.

input type="search"



A search input field with the text "meaning" and a clear button (X) next to it, followed by a "search" button. The input field has a rounded right side and a light gray border. The clear button is a small circle with an 'X' inside. The "search" button is a dark brown rounded rectangle with white text.



A search input field with the text "meaning", followed by a "search" button. The input field has a standard rectangular shape with a light gray border. The "search" button is a dark brown rounded rectangle with white text.

input type="search"
placeholder="e.g. salad or fish"



A search bar with a light brown background. The input field is white with rounded corners and contains the placeholder text "e.g. salad or fish" in a light blue font. To the right of the input field is a dark brown button with the word "search" in white. Below the search bar is a solid light brown horizontal bar.



A search bar with a light brown background. The input field is white with rounded corners and is empty. To the right of the input field is a dark brown button with the word "search" in white. Below the search bar is a solid light brown horizontal bar.

HTML5
video

Flash
object

<video src="movie.mp4">

<!-- fallback content -->

</video>

```
<video src="movie.mp4">  
<object data="movie.swf">  
<!-- fallback content -->  
</object>  
</video>
```

```
<video src="movie.mp4">  
<object data="movie.swf">  
<a href="movie.mp4">download</a>  
</object>  
</video>
```

<video>

<source src="movie.mp4">

<source src="movie.ogv">

<object data="movie.swf">

download

</object>

</video>

<video>

<source src="movie.mp4">

1

<source src="movie.ogv">

2

<object data="movie.swf">

3

download

4

</object>

</video>

The value of a network is proportional to the square of the number of connected users of the system (n^2).

—Robert Metcalfe

priority of constituencies

In case of conflict, consider
users over authors over
implementors over specifiers
over theoretical purity.

*Software, like all technologies, is inherently political.
Code inevitably reflects the choices, biases and desires
of its creators.*

—Jamais Cascio

1. Make the most frequent tasks easy and less frequent tasks achievable.

2. Design for the 80%.

3. Privilege the Content Creator.

4. Make the default settings smart.

—Mark Boulton, Leisa Reichelt,
d7ux.org

Design for humans first, machines second.

—Microformats.org,
The microformats principles

The effectiveness of the Internet as a public resource depends upon interoperability (protocols, data formats, content), innovation and decentralised participation worldwide.

Transparent community-based processes promote participation, accountability, and trust.

—The Mozilla Foundation,
The Mozilla Manifesto

Rough consensus and running code.

—The Tao of IETF

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