BE LIKE WATER

Applying Bruce Lee's philosophy to web design

By Chen Hui Jing / @hj_chen
https://events.mozilla.org/techspeakers
"Be formless, shapeless, like water. Now you put water into a cup, it becomes the cup. You put water into a bottle, it becomes the bottle. You put it in a teapot, it becomes the teapot. Now water can flow, or it can crash. Be water, my friend."

—Bruce Lee
Physical media

Digital media
What about frameworks?

- S
- B
- E
- tachyons
- BULMA
“Preformations simply lack the flexibility to adapt to the ever changing.”

—Bruce Lee
Let's establish a new normal
State of Browsers (2018)

and many more...
“Yes, it's easier to develop and test in only one browser. I'm sure IT professionals would have loved to only support one kind of machine. But variety creates opportunity for us as developers in the long run."

—Rachel Nabors, *The Ecological Impact of Browser Diversity*
Feature Queries

To write style sheets that use new features when available but degrade gracefully when those features are not supported.
Browser support

CSS Feature Queries allow authors to condition rules based on whether particular property declarations are supported in CSS using the @supports rule.

<table>
<thead>
<tr>
<th>Feature Queries</th>
<th>IE</th>
<th>Edge</th>
<th>Firefox</th>
<th>Chrome</th>
<th>Safari</th>
<th>iOS Safari</th>
<th>Opera MNI</th>
<th>Chrome for Android</th>
<th>Android Browser</th>
<th>Samsung Internet</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>9</td>
<td>15</td>
<td>60</td>
<td>68</td>
<td>11</td>
<td>10.3</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>10</td>
<td>16</td>
<td>61</td>
<td>65</td>
<td>11.1</td>
<td>11.2</td>
<td></td>
<td></td>
<td>4.44</td>
<td>6.2</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>17</td>
<td>62</td>
<td>70</td>
<td>12</td>
<td>11.4</td>
<td>all</td>
<td></td>
<td>62</td>
<td>67</td>
</tr>
</tbody>
</table>

Note: For more detailed information, visit the website mentioned in the table.
.selector {
    /* Styles that are supported in old browsers */
}

@supports (property:value) {
    .selector {
        /* Styles for browsers that support the specified property */
    }
}
"It is futile to argue as to which single leaf, which design of branch, or which attractive flower you like; when you understand the root, you understand all its blossoming.

—Bruce Lee"
per pixel control: CSS1 values simplicity over level of control, and although the combination of background images and styled HTML is powerful, control to the pixel level is not possible.
author control: the author cannot enforce the use of a certain sheet, only suggest
a rich query language on the parse tree: CSS1 can only look for ancestor elements in the parse tree, while other style sheet languages (e.g. DSSSL [5]) offers a full query language.

We expect to see extensions of CSS in several directions:
- paper: better support for printing HTML documents
- support for non-visual media: work is in the process to add a list of properties and corresponding values to support speech and braille output
- color names: the currently supported list may be extended
- fonts: more precise font specification systems are expected to complement existing CSS1 font properties.
- values, properties: we expect vendors to propose extensions to the CSS1 set of values and properties. Extending in this direction is trivial for the specification, but interoperability between different UAs is a concern
- layout language: support for two-dimensional layout in the tradition of desktop publishing packages.
- other DTDs: CSS1 has some HTML-specific parts (e.g. the special status of the 'CLASS' and 'ID' attributes) but should easily be extended to apply to other DTDs as well.

We do not expect CSS to evolve into:
- a programming language
Transforms

Allows us to change the **shape** and **position** of the affected content without disrupting the normal document flow.
ПЕНГИЗ
КНИГИ
ПО ВСЕМ ОТРАСЛЯМ ЗНАНИЯ
ПЕНГИЗ
DIE FRAU OHNE NAMEN
ZWEITER TEIL
PHOEBUS-PALAST
RUNEBER: PACIFIC 231
The Future Sound

Julian Sartorius (CH)
Exclusive Solo Show

Abby Lee Tee
Album Release
visualised by
System Jaqueline

Mehmet Acuma
Andaka
Sant Jordi a les Biblioteques 2008

22.04.08
19h
Saló de Cent de l’Ajuntament de Barcelona

Pregó de la lectura a càrrec d’Alessandro Baricco
### 2D transform functions

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>rotate( &lt;angle&gt; )</code></td>
<td>Performs a 2D rotation by the angle specified around the element's origin</td>
</tr>
<tr>
<td><code>translate( &lt;translation-value&gt; [, &lt;translation-value&gt; ]? )</code></td>
<td>Performs a 2D translation in the specified X and Y directions</td>
</tr>
<tr>
<td><code>skew( &lt;angle&gt; [, &lt;angle&gt; ]? )</code></td>
<td>Performs a 2D skew by the angles specified</td>
</tr>
<tr>
<td><code>scale( &lt;number&gt; [, &lt;number&gt; ]? )</code></td>
<td>Performs a 2D scale operation by the scaling vector specified</td>
</tr>
</tbody>
</table>
Diagonal text with rotate()
PORTUGAL: IMPRESSIVE CULTURAL AND CREATIVE POTENTIAL WAS FIRST REVEALED TO THE WORLD OF MODERN ARCHITECTURE BY ALVARO SIZA, IN HIS MAKE, A NEW GENERATION OF ARCHITECTS IS EMERGING THAT INCLUDES MANUEL AND FRANCISCO AIRES MATEUS. THEIR WORK IS BOTH STRONGLY INTERNATIONAL AND ROOTED IN ITS PARTICULAR PLACE.

BY SIAN CARTER. PHOTOGRAPHY BY ISABEL MALHAD

Manuel and Francisco Aires Mateus are brothers who, after studying architecture at the Technical University in Lisbon, while still in their early twenties, went on to establish a studio together in 1991. Their growing practice incorporates two studios in the heart of Lisbon—one in the renovated shell of a former industrial workshop and the other in the rear high up in a collection of houses—where they work collaboratively. With a solid reputation based on designs for Browns and successful competition-winning proposals, they have reached new buildings in historic settings and impressive landscapes, they are playing an increasingly significant role in the development of new architectures in Portugal.

The thoughtful relationship of building in landscape and the convincing integration of their work was recognized by Aires Mateus, who included projects designed by the Aires Mateus brothers in the exhibition Portuguese Spanish Encounters in Architecture. Among these was the Casa da Ribeira in Lisbon, which, in its location of an emerging group of architects, was awarded the Brazilian Institute of Architecture. Aires Mateus, in turn, has suggested, "from exhibitions and competitions, there is a constant flow of ideas that are developed and refined."

OPPOSITE PAGE: This House in Alverca (2001) is a small villa just north of Lisbon. Aires Mateus Associates retained and repaired the traditional walls of a timber house, using them as a motif which they combined with computerized machine-made elements. The result between the old and new gives a strong sense of continuity and development in context.
Rethinking Web Design
# Browser support

## CSS3 2D Transforms

Methods of transforming an element including rotating, scaling, etc. Includes support for `transform` as well as `transform-origin` properties.

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>9</td>
<td>15</td>
<td>60</td>
<td>68</td>
<td>11</td>
<td>10.8</td>
<td>5</td>
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<td>62</td>
<td>3.2</td>
<td>4.4</td>
<td>6.2</td>
</tr>
</tbody>
</table>

Global: 95.64% + 99.96% - 99.96%

## CSS3 3D Transforms

Method of transforming an element in the third dimension using the `transform` property. Includes support for the `perspective` property to set the perspective in a space and the `backface-visibility` property to toggle display of the reverse side of a 3D-transformed element.

<table>
<thead>
<tr>
<th></th>
<th>IE</th>
<th>Edge</th>
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<td>11.2</td>
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</tr>
</tbody>
</table>

Global: 95.64% + 99.96% - 99.96%
I'm an airport girl. I go to Athens to get coffee, and the paparazzi tells me to hit the road. I drink one or two cappuccinos a day. I think that's fine, but I have some habits. I just gave up smoking because I was drinking all the time and couldn't get the smoke in my lungs. Whether it's my own indulgence. 10:00 A.M. In England, there's no exercise culture, whereas in America I start my day—well, I have one—by doing ballet. I'm always traveling for work, and 70 percent of the time I'm jet-lagged. This month, I've been in London, Paris, New York, L.A., and back to New York. The last day of the year has a rest from New York. If my diary doesn't work in the New York, it seems that people in other cities will take advantage of that and I'll split apart. It's the biggest story about how they differentiated the baby in half because they couldn't divide it. I feel like real life is like that.

11:00 A.M. When I go to Jack's Wide-Open to the Smile and get scrambled eggs with cheese and coddled eggs in New York, I'll take 12:00. Later, we're going to the airport, where we're going to a lot of different things around the city. I get on the back of my grandpa's bike and I'm not talking about anymore because I've become a vegetarian. I want a lot of times a week for a year. When I like something I become obsessed with it, even like, string things together. Right now it's lobster roll. 1:00 P.M. I come home, get some water, wash my teeth and face, get into bed, and fall asleep. I always sleep naked. I'd like to be in bed with a box at 10 a.m., but that's not happening.

As told to Christine Whitney


THE TROUBLE WITH

Where the price of oil soared to unprecedented levels amid a global economic downturn, the world's energy dependence on oil has not only surged, but also intensified. The Gulf states, in particular, have seen a significant rise in oil exports and revenue, leading to a paradox where their economic stability is largely dependent on a commodity that is subject to volatile prices and uncertain demand.

Some indications show that the time has come to diversify. High savings allow most governments to maintain large sovereign wealth funds, which can be invested in diversified portfolios. However, they also indicate that they are willing to stand behind their economic structures, which are based on the oil industry. This has led to a situation where economies are increasingly reliant on fiscal policy and real estate investment, making them vulnerable to price fluctuations.

Across the Gulf, oil and gas companies have grown to be a major part of the economy, with a significant portion of their revenue from non-oil sectors. This diversification strategy has helped reduce the oil sector's dependency, but it has also exposed the region to the risks of commodity prices.

Global experience shows that growing economies often face challenges in achieving sustained growth. The Gulf states, with their vast oil reserves, face similar challenges. However, they are better positioned to weather the storm due to their diversified economies and strong financial reserves.

The Gulf region has been a leader in the global oil market, and its influence is felt worldwide. The region's economic policies, which have been aimed at diversification, are beginning to pay off. As the price of oil continues to fluctuate, the Gulf states are positioned to ensure their economic stability and growth.

It should be the foundation upon which diverse, sustainable economies are built—not an indispensable crutch. So why are Gulf states finding change so difficult?

By Stan Overdahl
CSS Shapes

Defines properties to control the geometry of an element’s float area
Lollipop marshmallow lemon drops jujubes muffin fruitcake bonbon. Muffin carrot cake bear claw sweet roll tiramisu chocolate jelly beans toffee sweet roll. Biscuit candy sweet sweet powder tart bear claw. Tiramisu jelly beans apple pie donut topping dessert lemon drops gummies halvah.


Gummi bears apple pie chupa chups jelly pie halvah pastry sweet. Cookie dessert sweet roll icing cheesecake macaroon wafer cheesecake. Toffee lemon drops apple pie fruitcake sweet roll chocolate cake jelly bear claw jelly. Donut tiramisu chocolate cake sesame snaps marshmallow tootsie roll candy canes cheesecake cotton candy.

Cake powder croissant lollipop cotton candy tiramisu lollipop tiramisu. Cookie candy canes gummies jujubes bonbon fruitcake ice cream gingerbread. Marzipan toffee carrot cake.
Firefox Shapes Editor

MDN: Edit Shape Paths in CSS
Lee Jun-fan (李振藩), known professionally as Bruce Lee, was a Hong Kong and American actor, film director, martial artist, martial arts instructor, philosopher and founder of the martial art Jeet Kune Do. He is widely considered by commentators, critics, media, and other martial artists to be one of the most influential martial artists of all time.

Lee was born in Chinatown, San Francisco, on November 27, 1940, to parents from Hong Kong, and was raised with his family in Kowloon, Hong Kong. He was introduced to the film industry by his father and appeared in several films as a child actor. Lee moved to the United States at the age of 18 to receive his higher education at the
### Browser support

**CSS Shapes Level 1**

Allows geometric shapes to be set in CSS to define an area for text to flow around. Includes properties like `shape-outside`, `shape-margin`, and `shape-image-threshold`.

<table>
<thead>
<tr>
<th></th>
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<tr>
<td>10</td>
<td>16</td>
<td>61</td>
<td>69</td>
<td>11.1</td>
<td>11.2</td>
<td></td>
<td>4.4, 6</td>
<td>4.4, 6</td>
<td>6.2</td>
</tr>
<tr>
<td>11</td>
<td>17</td>
<td>62</td>
<td>70</td>
<td>11.4</td>
<td>all</td>
<td></td>
<td>65, 67</td>
<td>67</td>
<td>7.2</td>
</tr>
<tr>
<td>12</td>
<td>18</td>
<td>63</td>
<td>71</td>
<td>TP</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Vote for Shapes on WPDev User Voice**
Writing-mode

Defines CSS features to support for various international writing modes
“Computers aren't the thing. They're the thing that gets us to the thing.”

How did we get here today? The choices we made, the sheer force of our will, something like that? Here's another coincidence, some unseen hand just pushing us along. Destiny.

What are you searching for?
Vertical headers
Vertical tags

Building for cross-browser compatibility

This is the third post of a multi-part series about developing the brand identity for Wismut Labs.
Vertical links
Vertical navigation

Without roots. Everywhere.
Flexbox

Box Alignment

Grid
Flexbox

Provides “simple and powerful tools for distributing space and aligning content in ways that web apps and complex web pages often need.”
Flex lines

nowrap

wrap

wrap-reverse
Auto-margins

.automargin {
    display: flex;
}

.automargin div {
    border: 1px solid;
}
Flexbox layouts (1/2)

```
.flex-cont ul {
  display: flex;
  flex-wrap: wrap;
  align-items: center;
}

.flex-cont li {
  flex: 1 0 auto;
  // border: 1px solid;
}

.flex-cont img {
  width: 100%;
}
```
Flexbox layouts (2/2)

```css
// justify-content: center;
// align-items: center;
}

.flex-cont2 li {
  // border: 1px solid;
  flex: auto;
}

.flex-cont2 img {
  width: 5em;
  height: calc(100% - 0.5em);
  object-fit: cover;
  margin: 0 0.25em 0 0;
}
calc() and object-fit browser support
CSS Grid

Defines a **two-dimensional** grid-based layout system, optimized for user interface design
Flexible tracks with \( \text{fr} \)

Represents a fraction of the free space in the grid container.

```css
.fr {
  display: grid;
  grid-template-columns: 150px 1fr 2fr;
}
```
Fluid CSS grid

```css
.container {
    display: grid;
    grid-template-columns: repeat(3, 3fr 2fr);
}
```
Flexible tracks with `minmax()`

Defines a size range for columns or rows in the grid.

```css
.minmax {
  display: grid;
  grid-template-columns: minmax(300px, 1fr) 300px 300px;
}
```
The `repeat()` function

To specify a large number of columns or rows that follow a similar pattern

```css
.repeat {
  display: grid;
  grid-template-columns: repeat(4, 110px 155px);
}
```
**auto-fill vs. auto-fit**

Allow browser to determine how many tracks to create depending on track size.

```
repeat(auto-fill, 100px)
```

```
repeat(auto-fit, 100px)
```

auto-fit collapses empty tracks.
auto-fill versus auto-fit
Responsive grid without media queries

```css
.container {
    display: grid;
    grid-template-columns: repeat(auto-fill, minmax(10em, 1fr));
}
```
The implicit grid

```
.implicit {
  display: grid;
  grid-template-columns: 200px 200px 200px; /* three columns */
  grid-template-rows: 200px 200px; /* two rows */
  grid-auto-columns: ;
}

.j {
  grid-column: ;
}
```
The `grid-auto-flow` property

Adjusting the direction and density of grid items

```css
.autoflow {
  display: grid;
  grid-template-columns: repeat(auto-fit, minmax(120px, 1fr));
  grid-auto-rows: 120px;
  grid-auto-flow: row;
}

.autoflow__item:nth-child(3n) {
  background-color: #f48136;
  grid-column-end: span 2;
}
```
Firefox Grid Inspector (1/2)

Braun HiFi studio Anlagen

Als HiFi Spitzengeräte auf dem Markt etabliert Braun studio Anlagen das höchste Ziel: Musik so zu übertragen, wie sie wirklich ist.

Um diese so selbstverständlich scheinende Aufgabe in ihrer vollen Konsequenz zu lösen, besteht es jahrelanger Forschung, kriegerischer Auswahl moderner elektronischer Bauelemente und Anwendung neuartiger Konstruktionen.

Braun studio Anlagen bestehen aus HiFi Komponenten, die man je nach Anspruch und Raumgröße individuell zusammenstellen kann. Jeder Baustein paßt zum anderen, technisch und formal...
Braun HiFi
studio Anlagen

Als HiFi Spitzengeräte auf dem Markt breiten wir unsere
Anlagen das höchste Ziel: Musik so zu
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Braun studio Anlagen bestehen aus HiFi
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nach zusammengesetzt und
zusammengeboten kann. Der Baukasten
zulässt zum anderen, technisch und
formal.

Firefox Grid Inspector (2/2)
“They no longer ‘listen’ to circumstances; they ‘recite their circumstances’.

—Bruce Lee"
<table>
<thead>
<tr>
<th>Property</th>
<th>Specification</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>animation</td>
<td>CSS Animations Level 1</td>
<td>WD</td>
</tr>
<tr>
<td>animation-delay</td>
<td>CSS Animations Level 1</td>
<td>WD</td>
</tr>
<tr>
<td>animation-direction</td>
<td>CSS Animations Level 1</td>
<td>WD</td>
</tr>
<tr>
<td>animation-duration</td>
<td>CSS Animations Level 1</td>
<td>WD</td>
</tr>
<tr>
<td>animation-fill-mode</td>
<td>CSS Animations Level 1</td>
<td>WD</td>
</tr>
<tr>
<td>animation-iteration-count</td>
<td>CSS Animations Level 1</td>
<td>WD</td>
</tr>
<tr>
<td>animation-name</td>
<td>CSS Animations Level 1</td>
<td>WD</td>
</tr>
<tr>
<td>animation-play-state</td>
<td>CSS Animations Level 1</td>
<td>WD</td>
</tr>
<tr>
<td>animation-timing-function</td>
<td>CSS Animations Level 1</td>
<td>WD</td>
</tr>
<tr>
<td>appearance</td>
<td>CSS Basic User Interface Module Level 4</td>
<td>WD</td>
</tr>
<tr>
<td>azimuth</td>
<td>CSS 2.1</td>
<td>REC</td>
</tr>
<tr>
<td>background</td>
<td>CSS 2.1</td>
<td>REC</td>
</tr>
<tr>
<td>background-attachment</td>
<td>CSS Backgrounds and Borders Module Level 3</td>
<td>CR</td>
</tr>
<tr>
<td>background-attachment</td>
<td>CSS Backgrounds and Borders Module Level 3</td>
<td>CR</td>
</tr>
<tr>
<td>background-blend-mode</td>
<td>Compositing and Blending Level 1</td>
<td>CR</td>
</tr>
<tr>
<td>background-clip</td>
<td>CSS Backgrounds and Borders Module Level 3</td>
<td>CR</td>
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<tr>
<td>background-color</td>
<td>CSS 2.1</td>
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<tr>
<td>background-color</td>
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<tr>
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<td>CSS 2.1</td>
<td>REC</td>
</tr>
<tr>
<td>background-image</td>
<td>CSS Backgrounds and Borders Module Level 3</td>
<td>CR</td>
</tr>
<tr>
<td>background-origin</td>
<td>CSS Backgrounds and Borders Module Level 3</td>
<td>CR</td>
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<tr>
<td>background-position</td>
<td>CSS 2.1</td>
<td>REC</td>
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<td>CR</td>
</tr>
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<td>background-repeat</td>
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Really recommended reading

- CSS Isn’t Black Magic
- Six Layout Myths Busted
- List of CSS properties, both proposed and standard
- CSS Inheritance, The Cascade And Global Scope: Your New Old Worst Best Friends
- History of Flexbox
- Use cases for Flexbox
- 11 things I learned reading the flexbox spec
- Deep Dive into Grid Layout Placement
- CSS Grid Layout and positioned items
- Powerful New Additions to the CSS Grid Inspector in Firefox Nightly
- There are maps for these territories
- The Way We Talk About CSS
“True observation begins when one is devoid of set patterns, and freedom of expression occurs when one is beyond systems.”

—Bruce Lee
Thank you!

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