Not in Kansas anymore

A new frontier for web design
Distribution of languages used around the world

Every other language in the world (~95%)

Distribution of content languages on the web

English (~52.3%)

Every other language in the world (~47.7%)

Sources: Worldometers, Ethnologue, W3Techs
Local content

“Local content is a critical component of efforts to bridge the digital divide.”

—Internet Society Policy Brief: Local Content
Internationalisation (i18n)

“To ensure that the technology supports text in any writing system of the world.”

—W3C Internationalisation
The web is a unique medium of its own

Physical media

Web medium
Intrinsic web design

Intrinsic (adjective) /ɪnˈtrɪn.zɪk/

belonging to the essential nature or constitution of a thing
“I think Intrinsic Web Design is about the shift from being limited by CSS’ capabilities to being empowered by them.”

—Ezequiel Bruni
Team layout

Display

Box Alignment

Flexible Box

CSS Grid

Ruby Layout

Inline Layout

Positioned Layout

Writing Mode

CSS Shapes

CSS Transforms

And more...
MARU³ MORI PROJECT

活動の詳細はこちら
まるまるまるものコンセプト

スキル：

https://www.chenhuijing.com/slides/37-code-2018
強く踏み出すべき時代。

根付で知られ、日本全国に広がる根付の文化。

その思いは、これからも大切にすると思います。

根付は五万一千石の城下町

当時、根付の大手門から続くのは、

お気軽に入り

良いものを

https://www.chenhuijing.com/slides/37-code-2013
which one of the two possible websites are you currently designing?
Building for cross-browser compatibility

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

The previous post covered a number of design decisions made with regards to the overall style.

Have a story? Send it in!

Without roots. Everywhere.
No layout
HTML Tables
CSS Floats
Frameworks
Grid and beyond
THE NERVE CENTRE OF LONDON'S UNDERGROUND
ASK FOR
NOT JUST
ETHYL

https://www.chenhuijing.com/slides/37-code-2018
CSS transforms

Defines a set of CSS properties that affect the visual rendering of elements to which those properties are applied

Let's you do Photoshop effects in your browser
Creating CSS pencils

- Mark-up (HTML)
- Visual styles (CSS)
- Layout styles (CSS)
Mark-up (HTML)

- This is a pencil
- A CSS only pencil
- Because why not

```html
<ul>
  <li>
    <p>This is a pencil</p>
  </li>
  <li>
    <p>A CSS only pencil</p>
  </li>
  <li>
    <p>Because why not</p>
  </li>
</ul>
```
Visual styles (CSS)

- This is a pencil
- A CSS only pencil
- Because why not

```css
.transforms1 li {
  display: flex;
  align-items: start;
  margin-bottom: 1em;
}
.transforms1 li::after {
  content: ''; 
  border-style: solid;
  border-color: transparent transparent transparent #e29663;
  border-width: 1em 2em 1em;
}
.transforms1 li::before {
```

https://www.chenhuijing.com/slides/37-code-2018
Layout styles (CSS)

```css
.transforms2 {
    transform: rotate(90deg) translateY(-150%);
    transform-origin: 0% 0%;
}
```
What happens when you apply a transform?

- establishes a **new local coordinate system** at the element that it is applied to
- does **not** affect the flow of the content surrounding the transformed element
- results in the creation of a **stacking context**
Super Silly Hackathon by Lim Chee Aun
team Layout

writing mode

Specifies the block flow direction, which determines the ordering direction of block-level boxes in a block formatting context.
Can make content horizontal or vertical.
CSS Writing Modes

Defines CSS features to support for various international writing modes, such as left-to-right (e.g. Latin or Indic), right-to-left (e.g. Hebrew or Arabic), bidirectional (e.g. mixed Latin and Arabic) and vertical (e.g. Asian scripts).
**writing-mode property**

<table>
<thead>
<tr>
<th></th>
<th>From 1987 to Now</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>horizontal-tb</code></td>
<td></td>
</tr>
<tr>
<td><code>vertical-rl</code></td>
<td>From 1987 to Now</td>
</tr>
<tr>
<td><code>vertical-lr</code></td>
<td>From 1987 to Now</td>
</tr>
<tr>
<td><code>sideways-rl*</code></td>
<td>From 1987 to Now</td>
</tr>
<tr>
<td><code>sideways-lr*</code></td>
<td>From 1987 to Now</td>
</tr>
</tbody>
</table>

Properties marked with * have been deferred to Writing Modes Level 4.

https://www.chenhuijing.com/slides/37-code-2018
text-orientation property

mixed

upright

sideways

从1987到1988
text-combine-upright property

民國107年6月1日

none

民國107年6月1日

all

民國107年6月1日
digits <integer> *

Codepen example for text-combine-upright

https://www.chenhuijing.com/slides/37-code-2018
Layout styles (CSS)

A CSS only pencil
Because why not

```
.writingmodel {
  writing-mode: vertical-rl;
}
```
Visual styles (CSS)

```
.writingmode2 li {
    margin-left: 1em;
    display: flex;
    align-items: start;
}

.writingmode2 li::after {
    content: '';  
    display: block;
    border-style: solid;
    border-color: #e29663 transparent transparent transparent;
}
```
Logical properties

Allows control of layout through logical, rather than physical, direction and dimension mappings

Resolves confusion with left and right when writing-mode changes
https://www.smashingmagazine.com/2018/03/understanding-logical-properties-values/
team Layout

Flexbox

Describes a CSS box model optimized for user interface design

Makes vertical centering a pleasant dream instead of a horrible nightmare
Moar pencils, please

- This is a pencil
- This is a pencil
- This is a pencil
- A CSS only pencil
- A CSS only pencil
- A CSS only pencil
- Because why not
- Because why not
- Because why not
- This is a pencil
- This is a pencil
- A CSS only pencil
- A CSS only pencil
- Because why not
- Because why not
- This is a pencil
- This is a pencil
- A CSS only pencil
- A CSS only pencil
- Because why not
- Because why not
Mixed writing-modes?

```
.flex1 .vert {
  writing-mode: vertical-rl;
}
.flex1 .vert li {
  display: flex;
  align-items: start;
  margin: 0.5em;
}
.flex1 .vert li::after {
  content: '';
  display: block;
  border-style: solid;
  border-color: #e29663 transparent transparent
```
Single dimension daisy chains

flex-direction: row

flex-direction: column
Re-ordering flow

```css
.flex2 {
  display: flex;
  align-items: center;
  height: 100%;
  flex-wrap: wrap;
  flex-direction: row;
}
```
CSS Grid

team Layout

CSS Grid

Defines a two-dimensional grid-based layout system, optimized for user interface design.

Makes it possible to do overlap and vertical whitespace easily.
“Grid works from the container in, other layout methods start with the item”

—Rachel Andrew
Layout technique: inline-block

<table>
<thead>
<tr>
<th>Item A</th>
<th>Item B</th>
<th>Item C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item D</td>
<td>Item E</td>
<td>Item F</td>
</tr>
</tbody>
</table>

```css
.inline-block__item {
  display: inline-block;
  width: calc(100% / 3);
}
```
### Layout technique: float

<table>
<thead>
<tr>
<th>Item A</th>
<th>Item B</th>
<th>Item C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item D</td>
<td>Item E</td>
<td>Item F</td>
</tr>
</tbody>
</table>

```css
.float__item {
  float: left;
  width: calc(100% / 3);
}
```
## Layout technique: `flex`

<table>
<thead>
<tr>
<th>Item A</th>
<th>Item B</th>
<th>Item C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item D</td>
<td>Item E</td>
<td>Item F</td>
</tr>
</tbody>
</table>

```css
.flexbox {
  display: flex;
  flex-wrap: wrap;
}
.flexbox__item {
  flex: 0 0 calc(100% / 3);
}
```
Established relationship between rows and columns

Diagram inspired by Brenda Storer's *Using CSS in the real world* talk.

https://www.chenhuijing.com/slides/37-code-2018
Using `grid-column` and `grid-row`

```css
.placement {
  display: grid;
  grid-template-columns: repeat(6, 2.5em);
  grid-template-rows: repeat(6, 2.5em);
}

.placement__item:nth-child(1) {
  grid-column: 4;
  grid-row: 2;
}
```

https://www.chenhuijing.com/slides/37-code-2018
Bauhaus in the browser

Featuring...

- Grid
- Flexbox
- Writing mode
- Transforms
- Box alignment

https://codepen.io/huijing/pen/PpqomV | Full page demo

https://www.chenhuijing.com/slides/37-code-2018
These are not the borders you are looking for

That's more like it
Original image by Charles Hayter

https://www.chenhuijing.com/slides/37-code-2018
Colour theory with blend-modes

Featuring...

- Grid
- Box alignment
- Blend modes
- Box shadow

https://codepen.io/huijing/pen/gmOERN | Full page demo
CSSgram

A tiny (<1kb gzipped!) library for recreating Instagram filters with CSS filters and blend modes.

Choose a sample image:

Or paste in a link to your own photo: img/atx.jpg
Say yes to dynamic layouts

Original image by Wolfgang Schmittel
Braun HiFi
Steuergerät
audio 300

In der modernen Aufnahmetechnik ist keine Hilfe zu groß, kein Aufwand zu klein, um auch seltenste Freizeiten einer Interpretation zu erhalten. Demgegenüber gibt es aber nur wenige HiFi Geräte, die es fertigbringen, den ganzen Musikanschein wieder vollends hörbar zu machen. Ein Groß mit diesen Fähigkeiten ist der neue Taufon 3077 von Kompaktanlage mit unvergleichlicher technischer Ausstattung und einem farbenfrohen Reizspiel, das Braun über viele Jahre internationaler Auszeichnungen eintrag.

https://codepen.io/huijing/pen/xPEjWb
Full page demo

https://www.chenhuijing.com/slides/37-code-2018
Viewport Units

team Layout

Allows elements to be sized relative to the initial containing block, and scaled accordingly.

Provides CSS length values that truly embrace the nature of the web.
https://codepen.io/huijing/pen/GvNLJm
Full page demo
Art direction for the web

Tycho

Original design by Drew Sullivan

https://www.chenhuijing.com/slides/37-code-2018
Tycho

Tycho is an American ambient music project led by Scott Hansen as primary composer, songwriter and producer. Hailing from San Francisco, California, he is known ISO50 for his photographic and design works. His music is a combination of downtempo vintage-style synthesizers and ambient melodies.

https://codepen.io/huijing/pen/QQGBjY
Full page demo
CSS Shapes browser support

<table>
<thead>
<tr>
<th>Browser</th>
<th>IE 9</th>
<th>IE 10</th>
<th>Firefox</th>
<th>Chrome</th>
<th>Safari</th>
<th>iOS Safari</th>
<th>Opera Mini</th>
<th>Chrome for Android</th>
<th>Android Browser</th>
<th>Samsung Internet</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>59</td>
<td>60</td>
<td>68</td>
<td>10.1</td>
<td>10.3</td>
<td></td>
<td></td>
<td>87</td>
<td>67</td>
<td>67</td>
</tr>
<tr>
<td></td>
<td>61</td>
<td>62</td>
<td>68</td>
<td>11.1</td>
<td>11.4</td>
<td></td>
<td></td>
<td>67</td>
<td>67</td>
<td>7.2</td>
</tr>
</tbody>
</table>

Creating Non-Rectangular Layouts With CSS Shapes by Sara Soueidan

https://www.chenhuijing.com/slides/37-code-2018
out the cool demo the team built, based on Alice in Wonderland, to showcase CSS shapes’ capabilities. Point is, with CSS shapes, it’s totally possible to have text wrap around Beyoncé’s elbow.

To be honest, the W3C spec is not that easy to understand, so here’s my attempt at explaining it in plain English. A prerequisite for applying a CSS shape property to an element is that the element must be floated. It doesn’t work on non-floated elements.

If the browser you’re using right now supports CSS shapes, you should see text wrapping nicely around the image of Beyoncé, otherwise you’ll just see the standard rectangular column of text. (Hint: Try using Chrome or Safari)

There are 4 basic shape functions you can use to define an element’s shape, in other words, how you want the text to flow around your element. In addition to that, you can also extract a shape from images with an alpha channel.
CSS clip-path browser support

Masking vs. Clipping: When to Use Each by Sarah Drasner

https://www.chenhuijing.com/slides/37-code-2018
SVG Masking `clip-path` Experiment.
Move your mouse/finger over the image.
@pixelia.me
CSS Exclusions browser support

### CSS Exclusions Level 1

Exclusions defines how inline content flows around elements. It extends the content wrapping ability of floats to any block-level element.

<table>
<thead>
<tr>
<th>IE</th>
<th>Edge</th>
<th>Firefox</th>
<th>Chrome</th>
<th>Safari</th>
<th>iOS Safari</th>
<th>Opera Mini</th>
<th>Chrome for Android</th>
<th>Android Browser</th>
<th>Samsung Internet</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>15</td>
<td>59</td>
<td>66</td>
<td>10.1</td>
<td>10.3</td>
<td></td>
<td></td>
<td>4.4</td>
<td>5</td>
</tr>
<tr>
<td>10</td>
<td>16</td>
<td>60</td>
<td>67</td>
<td>11</td>
<td>11.2</td>
<td></td>
<td></td>
<td>4.4.4</td>
<td>8.2</td>
</tr>
<tr>
<td>11</td>
<td>17</td>
<td>61</td>
<td>68</td>
<td>11.1</td>
<td>11.4</td>
<td>all</td>
<td>67</td>
<td>07</td>
<td>7.2</td>
</tr>
<tr>
<td>12</td>
<td>18</td>
<td>62</td>
<td>69</td>
<td>12</td>
<td>12</td>
<td></td>
<td></td>
<td>07</td>
<td>7.2</td>
</tr>
</tbody>
</table>

Data from caniuse.com | [Refer to caniuse.com](https://www.chenhuijing.com/slides/37-code-2018)
Feature queries
Tests whether the user agent supports CSS property:value pairs
Like Modernizr, but in native CSS and makes it safe to use cutting edge features right now
Anatomy of a feature query

.selector {
  /* Styles that are supported in old browsers */
}

@supports (property:value) {
  .selector {
    /* Styles for browsers that support the specified property */
  }
}
Original image from CSS tricks
This example requires a browser that supports CSS Flexbox or Grid. If your browser did support CSS Grid, you would have seen something that resembles the image below, except recreated in HTML and CSS instead.

```css
header::before {
  content: 'This example requires a browser
  display: inline-block;
  background-color: rgba(253, 182, 182, 0.7)
  font-size: initial;
  max-width: 36em;
  color: #000;
  padding: 0.5em;
}

header > * {
  display: none;
}

header {
  background-color: $background;
  background-image: url('./fallback.png');
  background-size: contain;
  background-repeat: no-repeat;
}
```

https://www.chenhuijing.com/slides/37-code-2018
```css
@supports (display:grid) {
  .time {
    grid-row: 7;
  }

  .grid {
    display: grid;
    grid-template-columns: repeat(9, 1fr);
    grid-template-rows: repeat(3, 2em) repeat(0.125em);
    position: relative;
  }

  @media screen and (min-width: 480px) {
    .grid {
      transform: rotate(-30deg) translateX(0);
      grid-template-rows: repeat(3, 2em) repeat(0.125em);
    }
  }
}
```
Falling back with grace
Frequency of major browser releases
CSS Grid release dates

<table>
<thead>
<tr>
<th>March 2017</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sun</td>
<td>Mon</td>
<td>Tue</td>
<td>Wed</td>
<td>Thu</td>
<td>Fri</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>🌐</td>
<td>8</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>12</td>
<td>13</td>
<td>🌐</td>
<td>15</td>
<td>16</td>
<td>17</td>
</tr>
<tr>
<td>19</td>
<td>20</td>
<td>🌐</td>
<td>22</td>
<td>23</td>
<td>24</td>
</tr>
<tr>
<td>26</td>
<td>28</td>
<td>29</td>
<td>30</td>
<td>31</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>October 2017</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sun</td>
<td>Mon</td>
<td>Tue</td>
<td>Wed</td>
<td>Thu</td>
<td>Fri</td>
<td>Sat</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>13</td>
<td>14</td>
</tr>
<tr>
<td>15</td>
<td>16</td>
<td>🌐</td>
<td>18</td>
<td>19</td>
<td>20</td>
<td>21</td>
</tr>
<tr>
<td>22</td>
<td>23</td>
<td>24</td>
<td>25</td>
<td>26</td>
<td>27</td>
<td>28</td>
</tr>
<tr>
<td>29</td>
<td>30</td>
<td>🌐</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
CSS Grid browser support

<table>
<thead>
<tr>
<th>CSS Grid Layout</th>
<th>Edge</th>
<th>Firefox</th>
<th>Chrome</th>
<th>Safari</th>
<th>iOS Safari</th>
<th>Opera Mini</th>
<th>Chrome for Android</th>
<th>Android Browser</th>
<th>Samsung Internet</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>14</td>
<td>58</td>
<td>65</td>
<td>10</td>
<td>10.2</td>
<td></td>
<td></td>
<td>4.3</td>
<td>4</td>
</tr>
<tr>
<td>9</td>
<td>15</td>
<td>59</td>
<td>66</td>
<td>10.1</td>
<td>10.3</td>
<td></td>
<td></td>
<td>4.4</td>
<td>5</td>
</tr>
<tr>
<td>10</td>
<td>16</td>
<td>60</td>
<td>67</td>
<td>11</td>
<td>11.2</td>
<td></td>
<td></td>
<td>4.44</td>
<td>6.2</td>
</tr>
<tr>
<td>11</td>
<td>17</td>
<td>61</td>
<td>68</td>
<td>11.1</td>
<td>11.4</td>
<td>all</td>
<td>67</td>
<td>67</td>
<td>7.2</td>
</tr>
<tr>
<td>18</td>
<td>62</td>
<td>69</td>
<td>12</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Method of using a grid concept to lay out content, providing a mechanism for authors to divide available space for layout into columns and rows using a set of predictable sizing behaviors. Includes support for all `grid-*` properties and the `fr` unit.
Chromium issue tracker

Firefox Bugzilla

Webkit Bugzilla

Edge issue tracker
CSS

"WANTS YOU" TO HELP
MAKE THE WEB BETTER
Thank you!

https://www.chenhuijing.com

@hj_chen

@huijing

Font used is Overpass, by Delve Fonts