Internationalization and Layouts

Ahmad El-Alfy - November 2017
• My name is Ahmad El-Alfy.

• I wrote my first HTML document nearly 20 years ago.

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• Web standards and Accessibility fanatic.

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Mobile Design and Usability

Mobile Solutions, Global Scale

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November 28th, 2017

facebook for developers

CAIRO • EGYPT

https://fbpartnerworkshopcairo2017.splashthat.com/
Direction and the web
The **direction attribute** was first introduced in **HTML4** in **December 1997**

In HTML, it’s advised to use the HTML direction in conjunction with the language attribute

```html
<html class="no-js" dir="ltr" lang="en-us">

- Properly display text
- Assisting search engines, speech synthesizers, spell and grammar checkers
- Assist user agent with other issues (quotation marks, hyphenation, ligatures)
```

* [https://www.w3.org/TR/1998/REC-html40-19980424/struct/dirlang.html](https://www.w3.org/TR/1998/REC-html40-19980424/struct/dirlang.html)
The `dir` attribute was defined to accept only one of two values; LTR or RTL.
than the equivalent with Unicode references:

```
&#x202B;&#x05F4;...a Hebrew quotation...&#x05F4;&#x202C;
```

User agents must **not** use the `dir` attribute to determine text directionality.

The `dir` attribute is inherited and may be overridden. Please consult the section on the inheritance of text direction information for details.

### 8.2.1 Introduction to the bidirectional algorithm

The following example illustrates the expected behavior of the bidirectional algorithm. It involves English, a left-to-right script, and Hebrew, a right-to-left script.
HTML5 introduced a third value: auto
auto is really special because it uses a “complex algorithm” to detect the direction of an element “based on its content”
Thanks to Wuzzuf and AlMakinah for the great effort they've put on this meetup.

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خالص الشكر للمجهودات الخارقة التي بذلها كل من وظف والماكينة لتنظيم هذا التجمع.

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The *auto* keyword, which maps to the *auto* state

Indicates that the contents of the element are explicitly directionally isolated text, but that the direction is to be determined programmatically using the contents of the element (as described below).

**Note** The heuristic used by this state is very crude (it just looks at the first character with a strong directionality, in a manner analogous to the Paragraph Level determination in the bidirectional algorithm). Authors are urged to only use this value as a last resort when the direction of the text is truly unknown and no better server-side heuristic can be applied. [BIDI]

* https://html.spec.whatwg.org/multipage/dom.html#the-dir-attribute
Browser support is actually good
Except for …

* [https://www.w3.org/International/tests/repo/results/the-dir-attribute-auto](https://www.w3.org/International/tests/repo/results/the-dir-attribute-auto)
Changing the direction was sufficient back in the old days when we used to build layouts using tables.

Tables didn’t need any special attention as their direction was automatically flipped when we altered the direction.

When we started to build layouts using CSS and floats, we had to explicitly switch the values of some of the properties we used to use.
Let's Talk About RTL

26 Jul 2014

Arabic is the 7th most spoken language in the digital sphere. The number of the Arabic websites is increasing every day and the number of the websites localizing their content to attract more Arabic speaking users is growing. The techniques used to develop RTL websites are still misunderstood or mysterious for some. I will try to shed some light on the problems I have been facing and the tricks I am using to build RTL websites.

Note: Arabic is not the only language that is written from right to left. Persian and Hebrew are also written in the same way so relevant speakers might find the posted information useful.
1- Using different file for the RTL version

This method was popular due to rise of different tools that automatically parse the CSS files and produce an RTL version.
2- Loading an additional file that only contains the overriding properties

Creating a file that contains only the necessary properties that override the original CSS and load it last
3- Adding the overrides to the same CSS file
.selector {
    property: value;
}

/* Using class to override */
html.rtl .selector {
    property: value;
}

/* Using data attribute to override */
[dir="rtl"] .selector {
    property: value;
}
/* SCSS version */

.element {
  padding: 0 0 10px 15px;
  margin-left: 25px;
  [dir="rtl"] & {
    padding: 0 15px 10px 0;
    margin-left: 0;
    margin-right: 25px;
  }
}

/* The produced CSS will be: */

.element {
  padding: 0 0 10px 15px;
  margin-left: 25px;
}

[dir="rtl"] .element {
  padding: 0 15px 10px 0;
  margin-left: 0;
  margin-right: 25px;
}
This was how we always used to work. In fact; this is how most of us are still doing it. It might not be efficient but it’s the only way we had.
WHAT IF I TOLD YOU

THERE IS A WAY OUT
Introducing the :dir pseudo class selector
The `:dir()` CSS pseudo-class matches elements based on the directionality of the text contained in them.

```css
/* Selects any element with right-to-left text */
:dir(rtl) {
    background-color: red;
}
```

The `:dir()` pseudo-class uses only the *semantic* value of the directionality, i.e., the one defined in the document itself. It doesn't account for *styling* directionality, i.e., the directionality set by CSS properties such as `direction`. 

This is an experimental technology
Check the [Browser compatibility table](#) carefully before using this in production.
So what’s the difference between 
:dir(rtl) and [dir=“rtl”]
:dir() CSS pseudo-class — WD

Matches elements based on their directionality. :dir(ltr) matches elements which are Left-to-Right. :dir(rtl) matches elements which are Right-to-Left.
Even if browser support was good ... It still means that we should flip the values for everything ... margins, paddings, floats, positions ... etc
Introducing CSS Logical Properties and Values
W3C published the **first public draft** on 18 May 2017.

It provides the author with the ability to control layout through logical, rather than physical, direction and dimension mappings.
Flow relative values

These are mainly used with the text-align and the float properties. One of these four values are assigned to these properties:

`start`, `end`, `inline-start`, `inline-end`

```css
.element {
    text-align: start;
}

.element {
    float: inline-start;
}
```
Flow relative box-model properties

This mainly affect the properties margin, padding or borders

The property name is added to one of the following suffixes

block-start, block-end, inline-start, inline-end
block-start
means the vertical aspect where drawing starts (e.g. top)

block-end
means the vertical aspect where drawing ends (e.g. bottom)

inline-start
means the horizontal aspect where drawing starts (e.g. left in LTR)

inline-end
means the horizontal aspect where drawing ends (e.g. right in LTR)
In an LTR Element

```
.element {
    margin-inline-start: 10px;
    margin-inline-end: 20px;
    margin-block-start: 30px;
    margin-block-end: 40px;
}
```

In an RTL Element

```
.element {
    margin-left: 10px;
    margin-right: 20px;
    margin-top: 30px;
    margin-bottom: 40px;
}
```

```
.element {
    margin-right: 10px;
    margin-left: 20px;
    margin-top: 30px;
    margin-bottom: 40px;
}
```
What about the short-hand version?
The logical keyword

```
.element {
    margin: logical 10px 20px 30px 40px;
}
```

```
.element {
    margin: 10px 40px 30px 20px;
}  
```

```
.element {
    margin: 10px 20px 30px 40px;
}  
```

In an LTR Element

In an LTR Element

In an RTL Element
How about the position properties (top, right, bottom, left)?
The logical offsets

In an LTR Element

```css
.element {
  position: absolute;
  inset-inline-start: 10px;
  inset-block-end: 10px;
}
```

In an RTL Element

```css
.element {
  position: absolute;
  left: 10px;
  bottom: 10px;
}
```

```css
.element {
  position: absolute;
  right: 10px;
  bottom: 10px;
}
```
Webkit support a slightly different version of the syntax:

- **-inline-start**, **-inline-end**: start, end respectively

- **-block-start**, **-block-end**: before and after respectively
AUTO PREFIXER

FOR THE RESCUE
CSS Logical Properties

Use start/end properties that depend on LTR or RTL writing direction instead of left/right.

Global
unprefixed: 5.5%
5.5% + 83.39% = 88.89%

| Browser   | IE | Edge | Firefox | Chrome | Safari | Opera | iOS Safari | Opera Mini | Android Browser | Chrome for Android |
|-----------|----|------|---------|--------|--------|-------|------------|------------|-----------------|-------------------|
| Current   | 11 | 16   | 56      | 62     | 11     | 48    | 11         | all         | 56              | 61                |
| aligned   | 15 | 52   | 55      | 60     | 10.1   | 10.2  | 10.3       | 4.4         | 56              | 61                |
| Usage     | 57 | 58   | 59      | 63     | TP     | 49    | 50         | 61          |                 |                   |
| relative  |    |      |         |        |        |       |            |             |                 |                   |
| Date      |    |      |         |        |        |       |            |             |                 |                   |
| relative  |    |      |         |        |        |       |            |             |                 |                   |
| Date      |    |      |         |        |        |       |            |             |                 |                   |
Introduces logical properties and values that provide the author with the ability to control layout through logical, rather than physical, direction and dimension mappings.

**Roadmap Priority: High** — We intend to begin development soon.

🌟 96 Votes

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Detailed browser support

Working draft or equivalent

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* [https://developer.microsoft.com/en-us/microsoft-edge/platform/status/csslogicalpropertieslevel1/](https://developer.microsoft.com/en-us/microsoft-edge/platform/status/csslogicalpropertieslevel1/)
OK WE GOT LEFT AND RIGHT

WHY DO WE BOTHER ABOUT TOP AND BOTTOM?
We care because there is something called CSS Writing Modes
Disclaimer

Illustrations on this part are taken from an article published under the title “CSS Writing Modes” By “Jen Simmons” published on 24ways.org

https://24ways.org/2016/css-writing-modes/
ヒーン・アルメドのスタイルアイコン 封印
7回の結婚を繰り返しても、孤独に生きた。「世界で一番お金持ちだった女の子」。

Text: Neku Kusakami

HAN-BASED SYSTEMS
*Chinese, Japanese, Korean & more
Even though Butler's mother wanted her to become a secretary with a steady income, Butler continued to work at a series of temporary jobs, preferring the kind of mindless work that would allow her to get up at two or three in the morning to write. Success continued to elude her, as an absence of useful criticism led her to style her stories after the white-and-male-dominated science fiction she had grown up reading. She enrolled at California State University, Los Angeles, but then switched to taking writing courses through UCLA Extension.

Butler finally caught her break during the Open Door Workshop of the Screenwriters’ Guild of America, West, a program designed

* https://codepen.io/jensimmons/pen/ZBmwLo
Fun fact: Did you know that if you used the tag `<image>` in your HTML it will work? The tag is an alias to the known `<img>` tag!
Fun fact: Did you know that if you used the tag `<image>` in your HTML it will work? tag is an alias to the known `<img>` tag!
CSS writing-mode property

Property to define whether lines of text are laid out horizontally or vertically and the direction in which blocks progress.

Internet Explorer supports different values from an earlier version of the spec, which originated from SVG.
Now how do we put this magic into practice?
p {
  display: block;
  -webkit-margin-before: 1em;
  -webkit-margin-after: 1em;
  -webkit-margin-start: 0px;
  -webkit-margin-end: 0px;
}

user agent stylesheet
PostCSS plugin to transform start/end properties to left/right depending on LTR or RTL writing directions of the document

| File          | Description                                                      | Latest commit   |
|---------------|------------------------------------------------------------------|-----------------|
| .editorconfig | Switching to two spaces tab                                      | 2 years ago     |
| .gitignore    | Initial commit                                                   | 2 years ago     |
| .jshintrc     | Initial commit                                                   | 2 years ago     |
| .npmignore    | Initial commit                                                   | 2 years ago     |
| .travis.yml   | Initial commit                                                   | 2 years ago     |
| CHANGELOG.md  | Updated changelog and build status                               | 2 years ago     |
| LICENSE       | Initial commit                                                   | 2 years ago     |
| LICENSE-MIT   | Initial commit                                                   | 2 years ago     |
| README.md     | Markdown fix                                                     | 2 years ago     |
| index.js      | Added support for `text-align`: `start || end`                   | 2 years ago     |
| package.json  | Added support for `text-align`: `start || end`                   | 2 years ago     |
I think there’s a big future for logical properties, and you’ve started a great effort here a few years ago.

We can support logical properties using `:dir(ltr)` and `:dir(rtl)` fallbacks, which themselves can be transformed for extensive backward compatibility.

I’ve added support for an additional 60 logical properties, as well as flow-relative values for `float`, `resize`, and `text-align`:

https://github.com/jonathantneal/postcss-logical-properties

Would you be interested in transferring the postcss-logical-properties name? Or allowing me to be a collaborator on npm and this repo, so that we can offer this to everyone under the “logical” namespace?
PostCSS Logical Properties lets you use Logical Properties and Values in CSS, following the CSS Logical Properties and Values specification.

```css
.baner {
  color: #222222;
  inset: logical 0 5px 10px;
  padding-inline: 20px 40px;
  resize: block;
}

/* used alongside postcss-nesting, postcss-dir-pseudo-class */

.baner {
  color: #222222;
  top: 0; left: 5px; bottom: 10px; right: 5px;
}

[dir="ltr"] .baner {
  padding-left: 20px; padding-right: 40px;
}

[dir="rtl"] .baner {
  padding-right: 20px; padding-left: 40px;
}

.baner {
  resize: vertical;
}

/* used with { dir: 'ltr' } option */
```
Pick your own flavor
.element {
    margin-inline-start: 20px;
    background: #fff;
    color: #ff0000;
}

.element {  
    background: #fff;
    color: #ff0000;
}

.element:dir(rtl) {  
    margin-right: 20px;
}

.element:dir(ltr) {  
    margin-left: 20px;
}
.element:dir(rtl) {
  margin-right: 20px;
}

.element:dir(ltr) {
  margin-left: 20px;
}

[dir="rtl"] .element {
  margin-right: 20px;
}

[dir="ltr"] .element {
  margin-left: 20px;
}
module.exports = {
    plugins: {
        'postcss-import': {},
        'postcss-logical': {},
        'postcss-dir-pseudo-class': {},
        'postcss-cssnext': {},
        'postcss-nested': {},
        'postcss-retina-bg-img': {
            retinaSuffix: '@2x',
        },
        // cssnano: {},
    },
};
قبل أن تبدأ
الصوب الزراعية في مصر

الزراعة المحكمة يقصد بها إنتاج المحاصيل في مناطق خاصة تسمى الصوب أو البيوت المحكمة، حيث يتم الحفاظ على النباتات من الظروف الحيوية الصغرية مناخية، وتحقيقها في غير مواسمه وتم تصميم الصوب المحكم للحصول على محصول ذو جودة عالية.

ما الذي في التظاهر؟

الرؤية للمزارع المحكمة والبحثية فيه مسما، حيث تقوم في الحادثة الخاصة، لأن البيوت للمزارع في مناطق حديثة في تشكيل عالية، بتصميم البيوت المحكمة وتحقيقها بعدة النواحي، حيث يتم الحفاظ على النباتات من الظروف الحيوية الصغرية مناخية، وتحقيقها في غير مواسمه وتم تصميم الصوب المحكم للحصول على محصول ذو جودة عالية.

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قبل أن تبدأ

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الزراعة المجتمعة يقصد بها إنتاج المحاصيل في منشآت خاصة تشمل الصوبات أو الورون المجتمعة، الغرض منها حماية النبات من الظروف الجوية الصعبى ومناضلة والجها من غير موصى. ويتم بداخل الصوب التحكم في جميع العوامل البيئية ولعلها بذلك الوصول إلى أكبر كمية موجودة من المحصول.

ما الذي في النظرة؟

النسبة للزراعة المجتمعة والآمنة في نمو مستمر في مصر بينما تنتشر في شمال البلاد وهي النسخة خاصة لأن النظرة لتوزيع في مساحات الصوب في المفرع واضح حيث مخصص الدولة مئات الآلاف من皱ها في الوقت الحالي، أما مشروع المليل، وصف المليل فقدنا، ولكن يمكن تطع ذلك.
Thank you