

Bidirectional Text Support

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About me



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- From Iran
- Programming enthusiast for 20+ years
- Background in BBA, media, political science
- Software freedom advocate
- Becoming a full-stack developer
- Helped several free/libre software to add/improve support for RTL
 - Including Mastodon, Plume, Invidious, New Pipe, Omni Note, FluxBB, Kanboard, ...

What is the issue?

- Many publishing platforms
- More and more inter-connectivity
- More and more mixture of LTR and RTL



What is the issue?

egypt

→ LTR

مصر

← RTL

bahrain مصر kuwait

1 → 2 ← 3

What is the issue?

LTR

This is some text that you can read easily without any problem. Am I right?

RTL

این یک متن ساده است که شما به راحتی و بدون مشکل می‌توانید آن را بخوانید. درست می‌گوییم؟

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This is some متن that you can read به راحتی without any مشکل. Am I right?

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1 → ← 3 → ←
This is some متن that you can read به راحتی
without any مشکل. Am I right?
5 → ← 7 → ←

RTL

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This is some متن that you can read راحتی without any مشکل. Am I right?

و بدون easily ساده است که شما text این یک می‌توانید آن را بخوانید. درست می‌گوییم؟ problem

RTL

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This is some متن that you can read راحتی without any مشکل. Am I right?



What to do?

What to do?

- **Explicit**

- **Implicit**

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- Rich text (wysiwyg editors)
 - Add wysiwyg to all user generated content field?

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 - Add wysiwyg to all user generated content field?
- Set post overall direction
 - What about other user generated contents?
 - What about mix content withing the post?

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- **Implicit**

- Minimum threshold
 - No magic/universal value
 - Complex + not predictable

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- **Explicit**

- Rich text (wysiwyg editors)
 - Add wysiwyg to all user generated content field?
- Set post overall direction
 - What about other user generated contents?
 - What about mix content withing the post?

- **Implicit**

- Minimum threshold
 - No magic/universal value
 - Complex + not predictable
- Bidirectional text
 - Set direction based on the first strong directional character
 - Easy + familiar + predictable

Bidi on Android

TextDirection

Kotlin | Java

```
value class TextDirection
```



Defines the algorithm to be used while determining the text direction.

Summary

Public companion properties

`TextDirection`

`Content`

This value indicates that the text direction depends on the first strong directional character in the text according to the Unicode Bidirectional Algorithm.

`TextDirection`

`ContentOrLtr`

This value indicates that the text direction depends on the first strong

Bidi on Web

dir

An enumerated attribute indicating the directionality of the element's text. It can have the following values:

- `ltr`, which means *left to right* and is to be used for languages that are written from the left to the right (like English);
- `rtl`, which means *right to left* and is to be used for languages that are written from the right to the left (like Arabic);
- `auto`, which lets the user agent decide. It uses a basic algorithm as it parses the characters inside the element until it finds a character with a strong directionality, then it applies that directionality to the whole element.

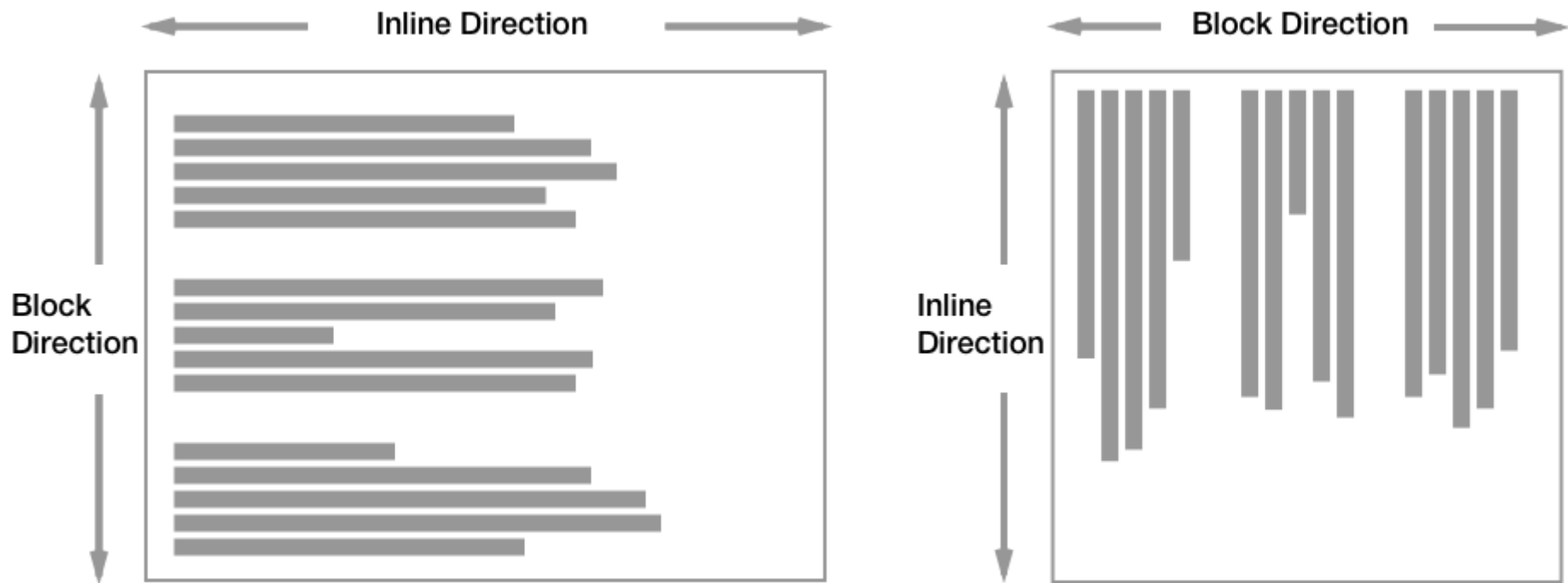
Using bdi with LTR and RTL text

This example lists the winners of a competition using `<bdi>` elements. These elements instruct the browser to treat the name in isolation from its embedding context, so the example output is properly ordered:

```
<ul>
  <li><bdi class="name">الأغشى</bdi> - 1st place</li>
  <li><bdi class="name">Jerry Cruncher</bdi> - 2nd
place</li>
</ul>
```


Logical Styling

Logical Styling



Logical Styling

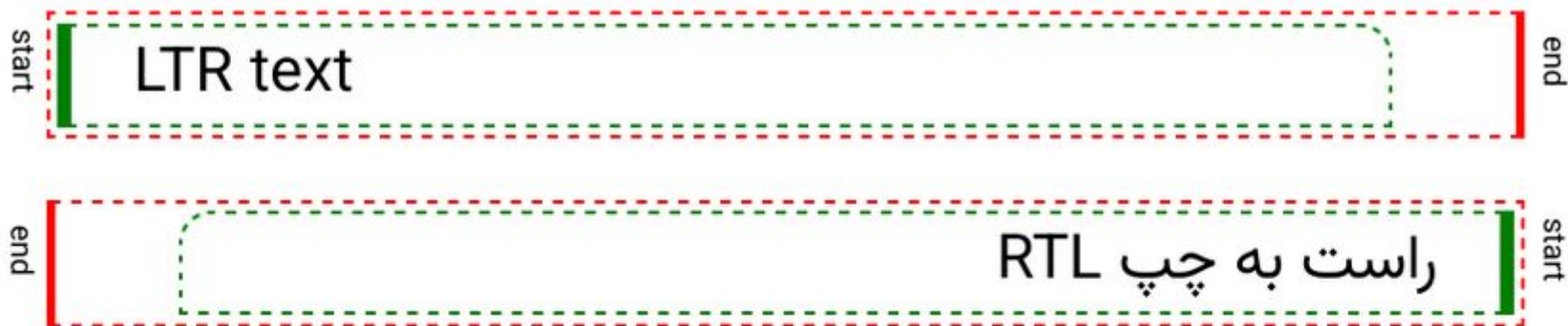
Logical / Flow Relative Values	Physical Values
text-align: start / end;	text-align: left / right;
padding -inline-start/end: 0;	padding -left/right: 0;
padding -inline: 0;	padding -left: 0; padding -right: 0;
padding -block-start/end: 0;	padding -top/bottom: 0;
padding -block: 0;	padding -top: 0; padding -bottom: 0;

The same logic applies to **margin**, **border**, **border-radius**.

Logical Styling

Logical / Flow Relative Values	Physical Values
inset-inline-start/end: 0;	left/right: 0;
inset-block-start/end: 0;	top/bottom: 0;
inset-inline: 0;	left: 0; right: 0;
inset-block: 0;	top: 0; bottom: 0;
Inset: 0;	left: 0; right: 0; top: 0; bottom: 0;

Logical Styling



```
.logical-wrapper {  
  border: 2px dashed red;  
  border-inline-end: 5px solid red;  
  position: relative;  
}  
  
.logical-inner {  
  text-align: start;  
  border: 2px dashed green;  
  margin: 0.25rem;  
  margin-inline-end: 2rem;  
  padding-inline-start: 1rem;  
  border-inline-start: 8px solid green;  
  border-start-end-radius: 1rem;  
}
```

```
.logical-wrapper:before {  
  content: "start";  
  position: absolute;  
  inset-block-start: 0.75rem;  
  inset-inline-start: -2.5rem;  
  ...  
}  
  
.logical-wrapper:after {  
  content: "end";  
  position: absolute;  
  inset-block-start: 0.75rem;  
  inset-inline-end: -1.5rem;  
  ...  
}
```

Challenges...

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- Lack of understanding of the issue

و بدون easily ساده است که شما text این یک
می‌توانید آن را بخوانید. درست می‌گوییم؟ problem

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Challenges

- Lack of understanding of the issue
- Not taken seriously
 - I would suggest to consider it as an accessibility issue

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Challenges

- Lack of understanding of the issue
- Not taken seriously
 - I would suggest to consider it as an accessibility issue
- Challenges with bidi in nested elements
 - No guideline for complex scenarios

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Q&A