Intro to Flexbox

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Flexbox is also direction-agnostic; that is, it doesn't work only in the horizontal, like floats do.

Flexbox is being supplemented by the Grid layout specification, meant for larger screens, which is another extension of CSS. Grid is currently supported in Firefox and Chrome, with Safari and Opera support in beta. There prefixed Microsoft support for Grid.

Flexbox basics: terminology

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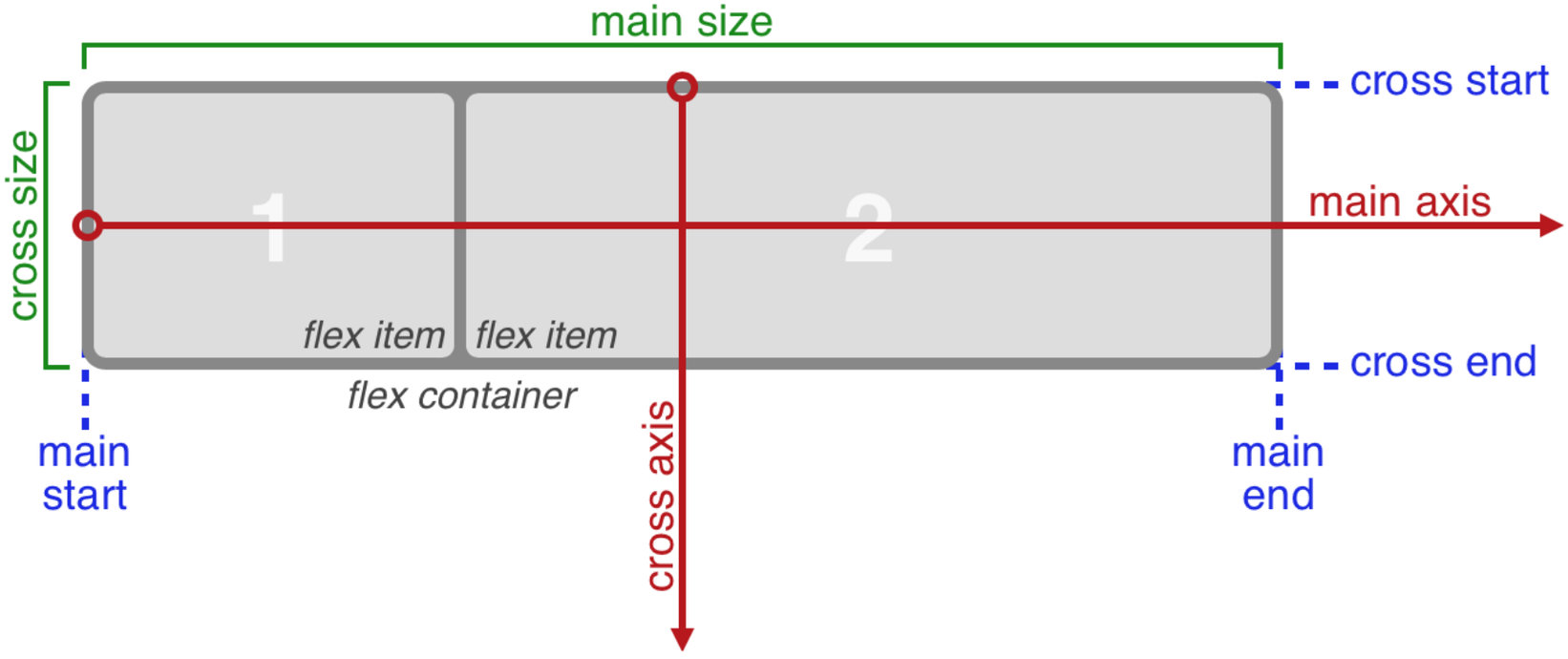

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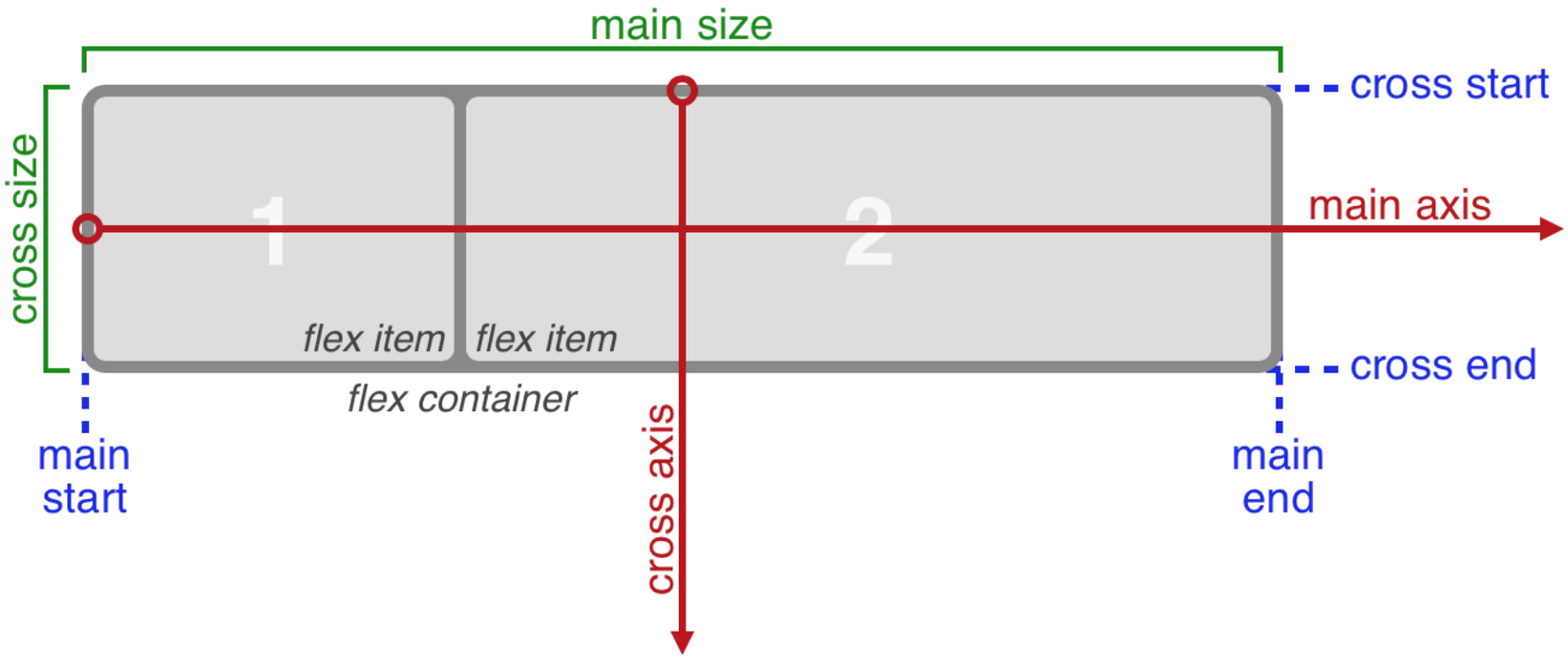

Basically, items will be laid out following either the main axis or the cross axis. Although the cross axis is always perpendicular to the main axis, the main axis is not always horizontal; you control that with the flex-direction property.

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Flex container properties

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To make a container a flex container, just add a class to it and give it a value of display: flex;

```
.container {
  display: flex;
}
```

(do this in course example)

Flex container properties

Flex-direction will define the main axis.

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```
.container {
  flex-direction: row;
}
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```
.container {
  flex-direction: row;
}
```

Other values: row-reverse, column, column-reverse

(show code example)

Flex container properties

Flex-wrap will allow flex items to wrap onto a new line

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```
.container {
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}
```

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```
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  flex-wrap: nowrap;
}
```

Other values: wrap, wrap-reverse

(show code example)

Flex container properties

Flex-flow is a shorthand for the flex-direction and flex-wrap properties

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```
.container {
  flex-flow: <flex-direction> || <flex-wrap>
}
```

Flex container properties

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```
.container {
  flex-flow: row nowrap;
}
```

(show example)

Flex container properties

Flex-justify will define alignment along the main axis. It’s an easy way to distribute extra space among items on the main axis, and control somewhat how they wrap in extra space.

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```
.container {
  justify-content: flex-start | flex-end | center |
space-between | space-around
}
```

(show example)

Flex container properties

```
.container {
  justify-content: flex-start;/*default value*/
  justify-content: flex-end;/*moves items to end of
      main axis*/
  justify-content: center;/*centers all the items
      along the main axis*/
  justify-content: space-around;/*puts equal amounts
      of space around each item*/
  justify-content: space-between;/*puts equal amounts
      of space between each item, moving first and
      last item to outer edges*/
}
```

Flex container properties

align-items will define alignment along the cross axis. Think of it as justify-content for the cross axis.

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```
.container {
  align-items: flex-start | flex-end | center |
baseline | stretch;
}
```

(show example)

Flex container properties

align-content will align a flex container’s lines when there’s extra space in the cross-axis. It won’t work when there’s only one line of content, so you’ll have to set flex-wrap: wrap; for it to work.

```
.container {
  flex-wrap: wrap;
  align-content: flex-start | flex-end | center |
space-between | space-around | stretch;
}
```

(show example)

Flex item properties

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To make an item a flex item, just put it in an element that's already a flex container. (Flex container: any element that has `display:flex;` applied to it.)

Properties include `order`, `flex-grow`, `flex-shrink`, `flex-basis`, `flex`(shorthand) and `align-self`.

Flex item properties

The order property allows you to change the order of a flex item. The order is changed by using an integer, where the default order value is 0. (Integers are numbers without fractions, including negative numbers.)

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```
.item {
  order: <integer>;
}
```

(show code example)

Flex item properties

The flex-grow property allows for a flex item to grow if necessary. It will accept a value that serves as a proprotion; the default value is 0 and negative numbers are invalid. The flex-grow property will accept fractional (decimal) values.

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```
.item {
  flex-grow: <number>;
}
```

(show code example)

Flex item properties

The flex-shrink property is rarely used, but you may run across it in code examples. It allows for a flex item to shrink if necessary. The default value is 1, and negative numbers are invalid.

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```
.item {
  flex-shrink: <number>;
}
```

(show code example)

Flex item properties

The flex-basis property will set the basic width for items before remaining content sizes are distributed. The basis is the amount of space an item should take up; if it becomes **narrower** than that basis size, remaining space will be redistributed.

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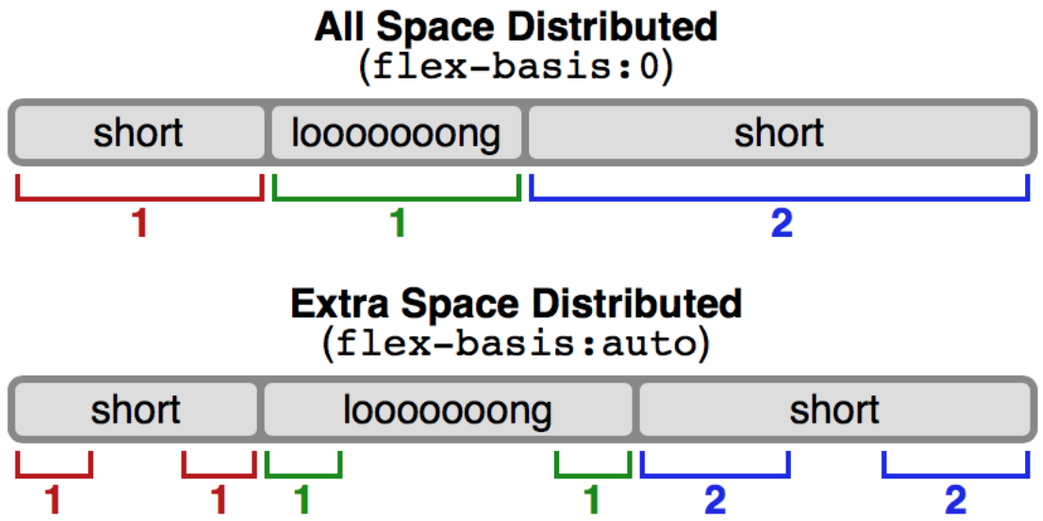
Flex basis can take a length (20em; 5%, 100px) or a keyword (auto, content, max-content, min-content). Auto is the only widely supported keyword right now.

Flex item properties

Flex-basis: 0; will ignore extra space around content.

Flex-basis: auto; will redistribute extra space based on the flex-grow value.



Flex item properties

The flex shorthand property is the recommended way to set flex-grow, flex-shrink and flex-basis values. The shorthand helps the flex properties set intelligently.

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```
.item {
  flex: none | [ <'flex-grow'> <'flex-shrink'>? ||
<'flex-basis'> ]
}
```

Flex item properties

The flex shorthand property is the recommended way to set flex-grow, flex-shrink and flex-basis values. The shorthand helps the flex properties set intelligently.

```
.item {
  flex: 1;
}
```

(show example)

Flex item properties

The align-self property will allow a flex item to align itself in the cross-axis separately from other flex items. It takes the same values as the align-items property, but applies to one item.

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```
.item {
  align-self:  auto | flex-start | flex-end | center |
baseline | stretch;
}
```

(show example)

Practical example: centering

Centering in vanilla CSS relies heavily on the margin: 0 auto; property, which sets the left and right margins of an item to automatic centering, and which can be circumvented by floats, clears, etc.

Centerting vertically in vanilla CSS is nearly impossible.

Enter Flexbox.

Practical example: centering

```
.container {
  display: flex;
  height: 300px;
}

.item {
  margin: auto;
}
```

(show example)

Practical example: responsive menu

Many of your class groups wrote navigation menus that were basically vertical lists, which would get hamburgered up when they were eventually set for the mobile devices.

Flexbox makes it easy to transition from a vertical to a horizontal menu layout with just a couple of commands.

(show example)