

Responsive Layouts

Mobile & Desktop First Approach

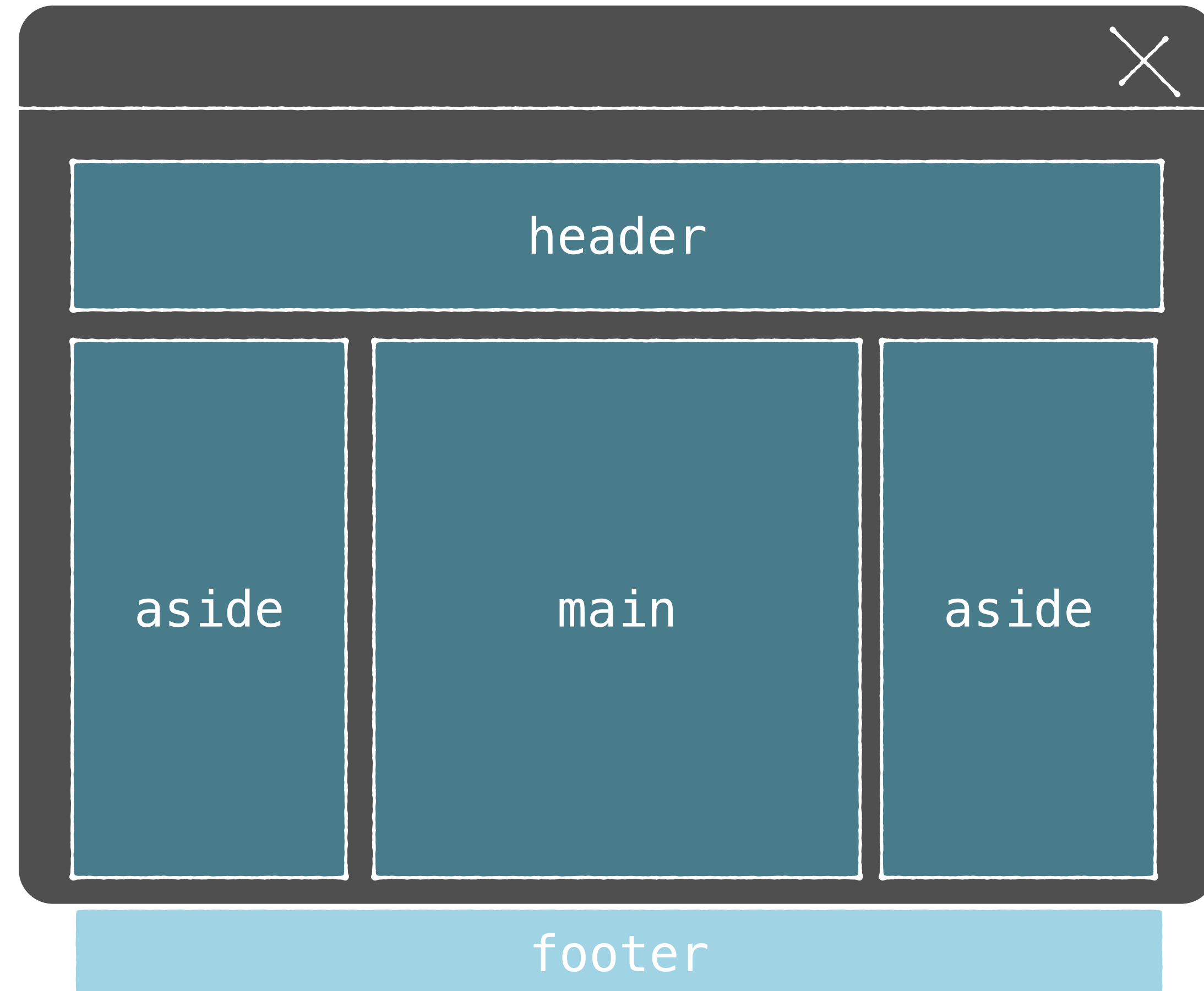
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Adaptives Design.

Für mobile Geräte heute Standard und ausreichend. Außerdem: Mobile First – Content First.

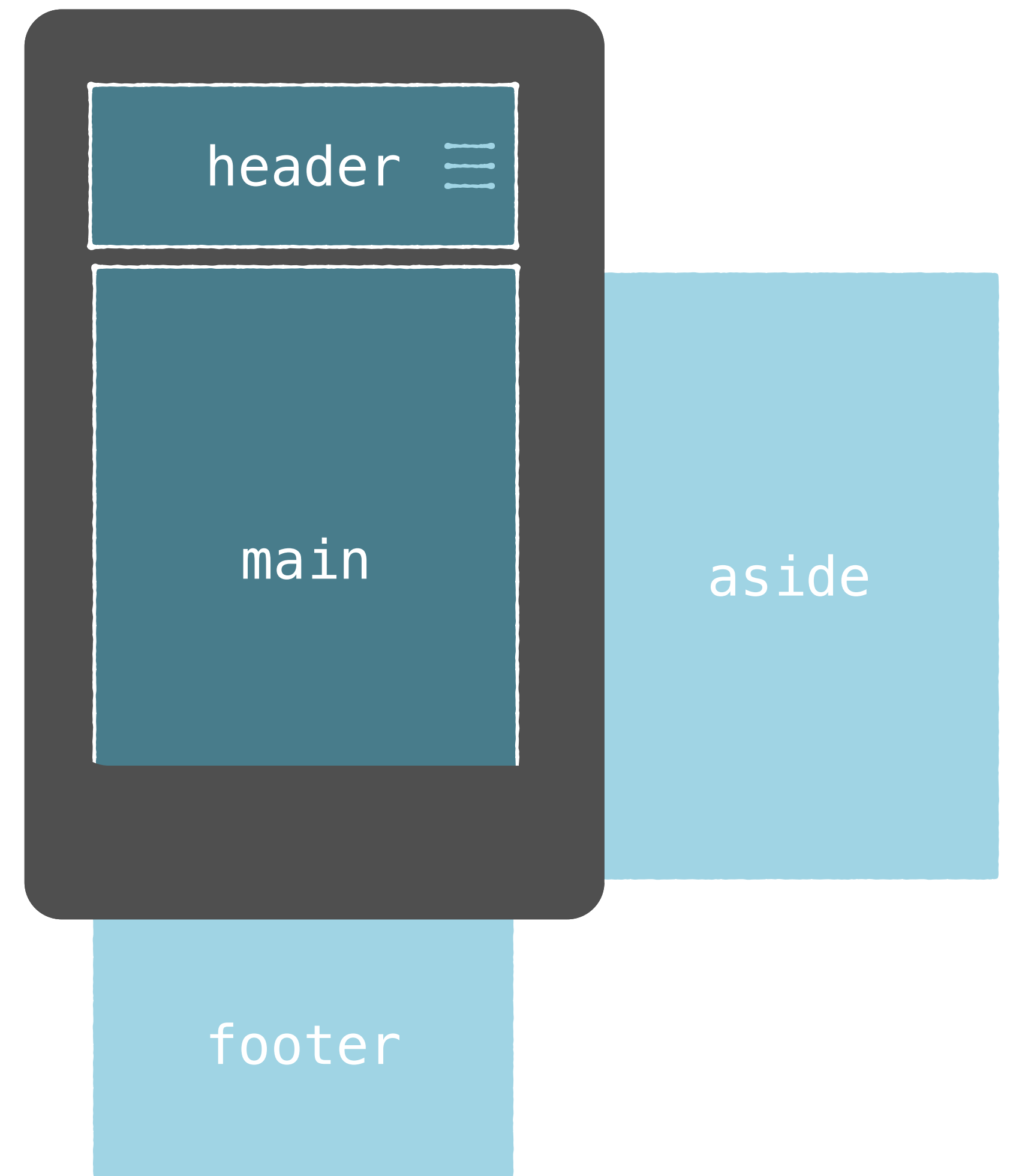
Desktop-layouts sind mehrspaltig.

- + Es gibt genügend Raum, um Navigation und Inhalte nebeneinander zu platzieren.



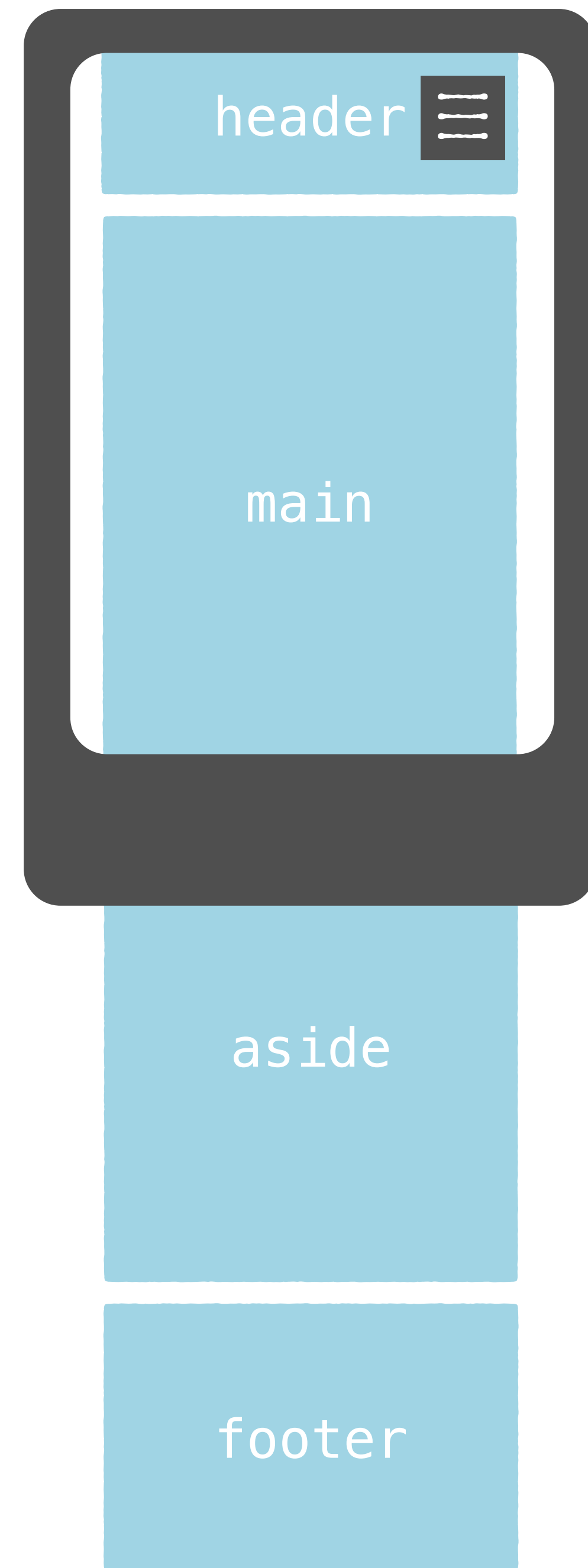
Smartphone layouts nicht.

- + Besonders im Hochformat bietet das Layout oft nur die Hälfte oder ein Drittel des Raumes.
- + Die Anordnung der Layoutelemente muss geändert werden.

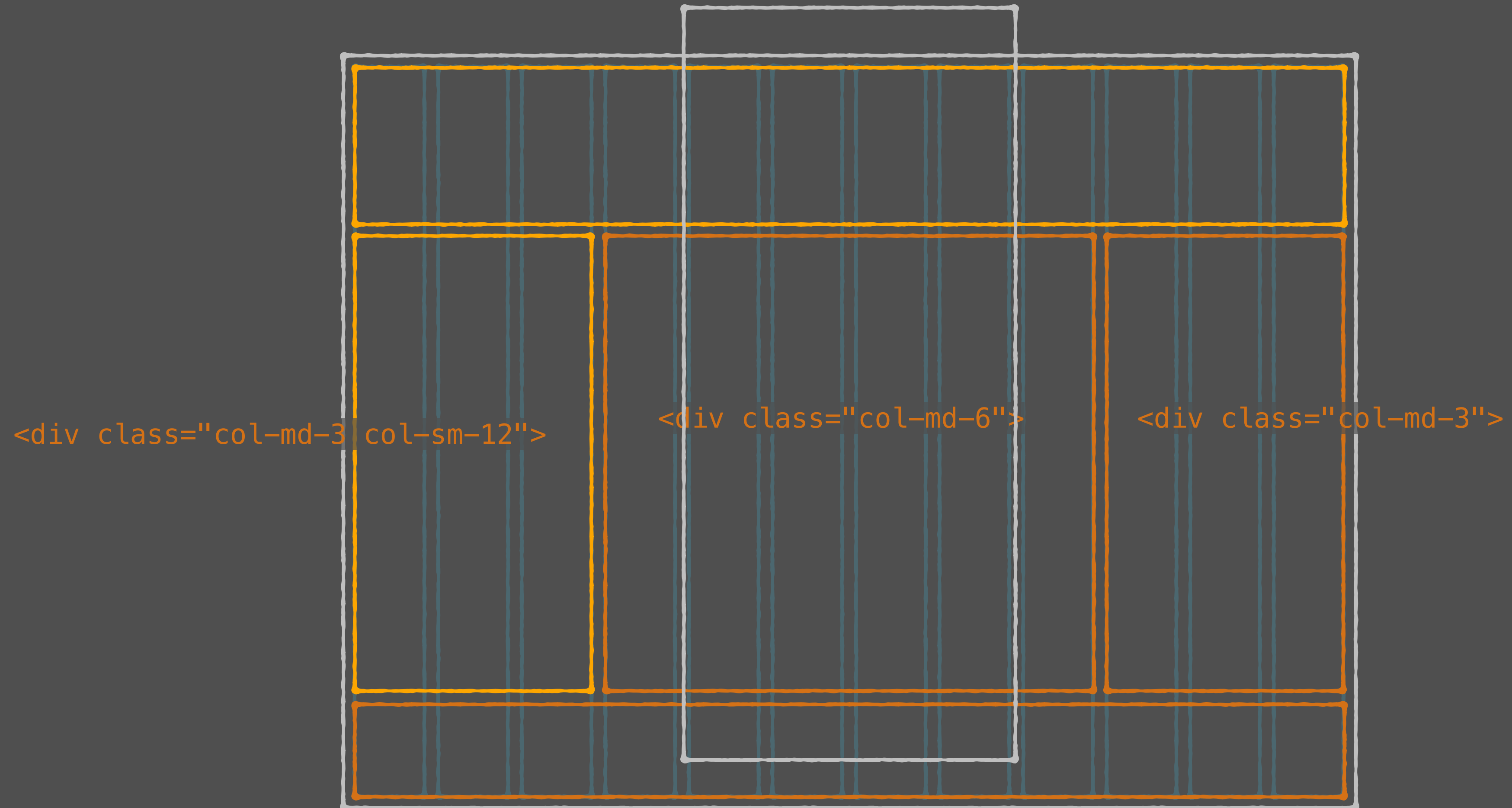


Linearisierung der Inhalte.

- + Die Inhalte werden untereinander angeordnet, (Flow), einige Elemente werden gar nicht angezeigt.
- + Mobile First
= Content First



```
<div class="container"> width: 100%  
  <div class="col-md-12">
```



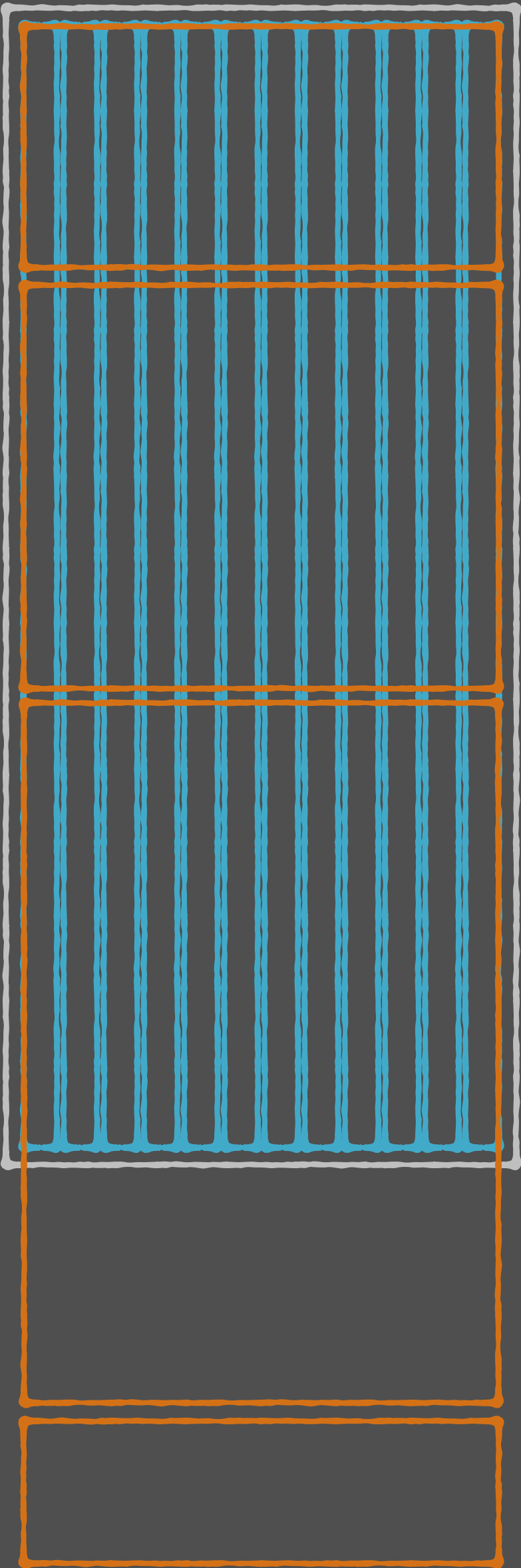
```
</div class="col-md-12">
```

<div class="container"> width: 100%

<div class="col-sm-12">

<div class="col-sm-12">

<div class="col-sm-12">



Die Mediaqueries aus Bootstrap

```
/* Extra small devices (phones, less than 768px) */  
/* No media query since this is the default in  
Bootstrap */
```

```
/* Small devices (tablets, 768px and up) */  
@media (min-width: @screen-sm-min) { ... }
```

```
/* Medium devices (desktops, 992px and up) */  
@media (min-width: @screen-md-min) { ... }
```

```
/* Large devices (large desktops, 1200px and up) */  
@media (min-width: @screen-lg-min) { ... }
```

Bootstrap:

Für alle Displaybreiten eine passende Variante.

	Extra small devices Phones (<768px)	Small devices Tablets (≥768px)	Medium devices Desktops (≥992px)	Large devices Desktops (≥1200px)
Grid behavior	Horizontal at all times	Collapsed to start, horizontal above breakpoints		
Max container width	None (auto)	750px	970px	1170px
Class prefix	.col-xs-	.col-sm-	.col-md	.col-lg
# of columns	12			
Max column width	Auto	60px	78px	95px
Gutter width	30px (15px on each side of a column)			
Nestable				
Offsets	N/A	Yes		
Column ordering	N/A	Yes		

Mobile First Approach

Responsive Layouts

2021 Michael Reichart

Das Attribut width, um Geräte zu unterscheiden: Vom kleinsten zum größten Gerät

```
really very tiny devices:  
@media screen and (max-width:480px) { ... }  
  
tiny devices:  
@media screen and (min-width:481px) { ... }  
  
small devices:  
@media screen and (min-width:768px) { ... }  
  
medium devices:  
@media screen and (min-width:1024px) { ... }  
  
large devices:  
@media screen and (min-width:1280px) { ... }  
  
xtra large:  
@media screen and (min-width:1600px) { ... }  
  
full hd device:  
@media screen and (min-width:1920px) { ... }
```

Mobile First - Progressive Enhancement

PRINTER

```
@media print {}  
@media print and (min-width:16cm) {}
```

ALL DEVICES

```
@media screen {  
    declarations for all devices,  
    optimized for xtra small mobile devices  
}
```

XTRA SMALL

```
@media screen and (max-width:767px) {  
    changes/specials for extra small  
}
```

SMALL	@media screen and (min-width:768px) { ... }
MEDIUM	@media screen and (min-width:992px) { ... }
LARGE	@media screen and (min-width:1200px) { ... }
HD READY	@media screen and (min-width:1440px) { ... }
??	@media screen and (min-width:1600px) { ... }
FULL HD READY	@media screen and (min-width:1920px) { ... }
4K	@media screen and (min-width:3840px) { ... }

DESKTOP First

GRACEFUL DEGRATION

ALL DEVICES

```
@media screen {  
    declarations for all devices,  
    optimized for medium devices  
}
```

MEDIUM

```
@media screen and (min-width:1024px) and (max-width:1279px)  
{  
    changes/specials for medium  
}
```

SMALL	@media screen and (max-width:767px)	{	...	}
XTRA SMALL	@media screen and (max-width:480px)	{	...	}
LARGE	@media screen and (min-width:1280px)	{	...	}
XTRA LARGE	@media screen and (min-width:1600px)	{	...	}
HD	@media screen and (min-width:1920px)	{	...	}

Andere Attribute

```
@media screen and (orientation:portrait) { ... }  
  
@media print and (resolution:300dpi) { ... }  
  
@media screen and (min-resolution:96dpi) { ... }  
@media screen and (min-resolution:192dpi) { ... } // Retina  
  
@media print and (color) { ... }  
  
@media screen and (aspect-ratio:16/9) { ... }
```