

Responsive Web Design



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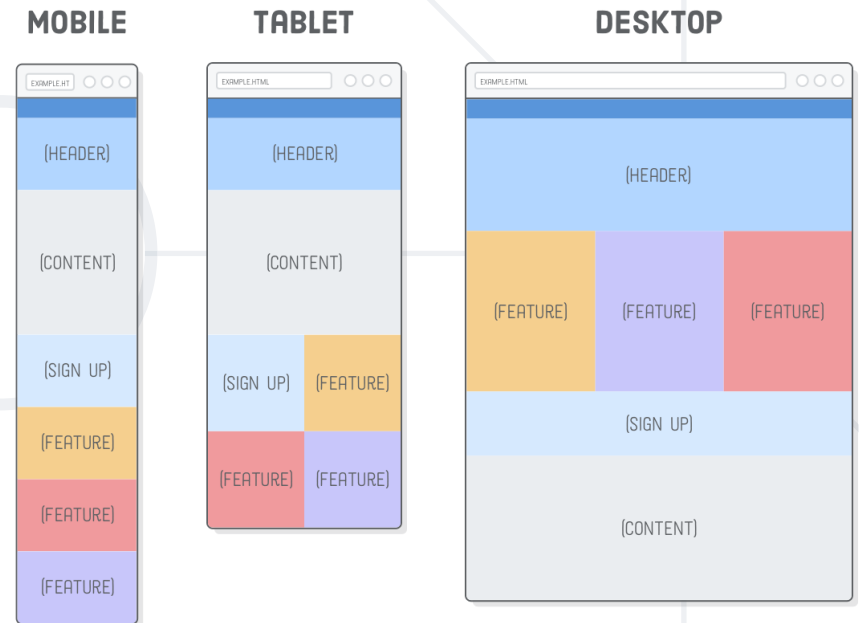
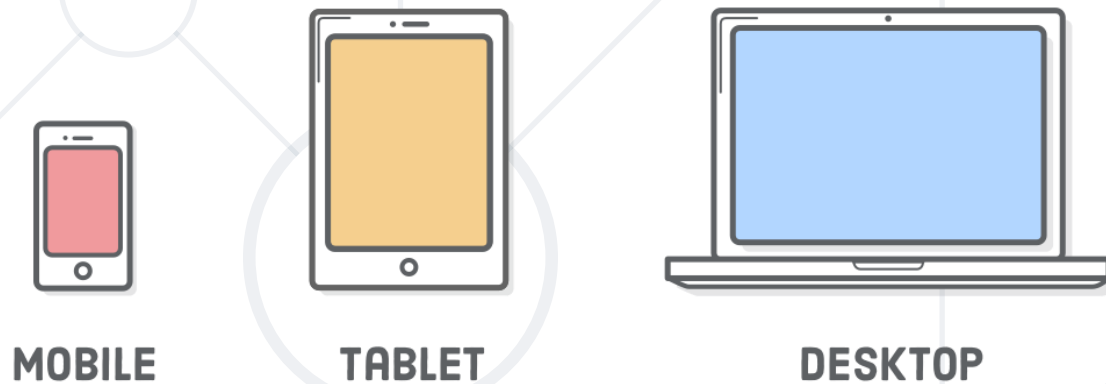
#html-css



Responsive Web Design

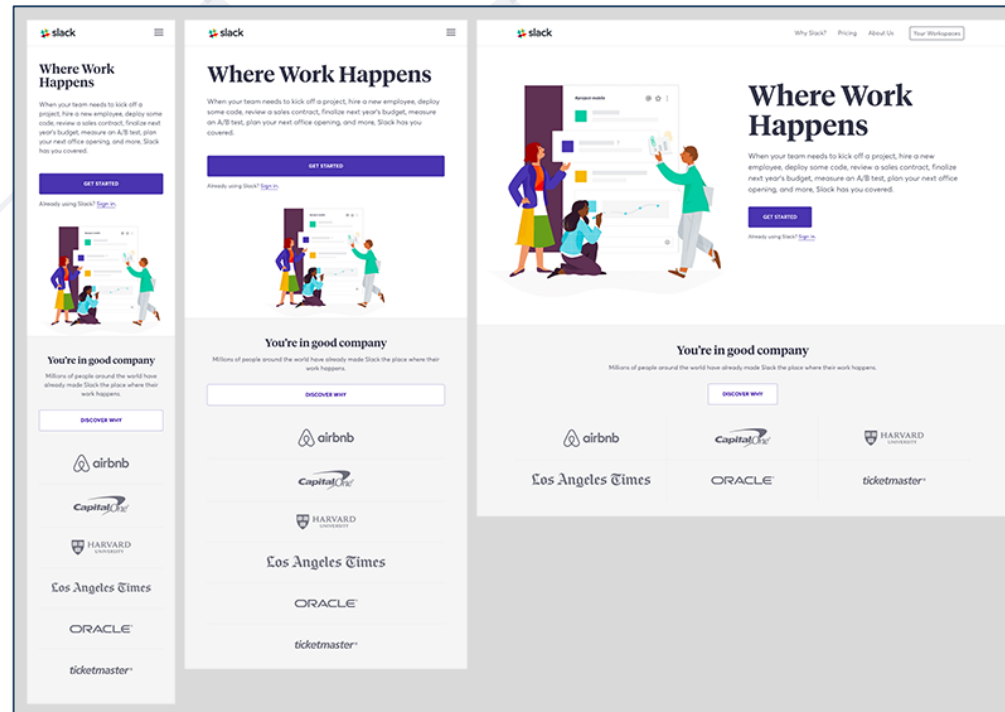
What is **Responsive Web Design**?

- It is an approach to make web pages render well on all screen sizes and resolutions while ensuring good usability. It is the way to design for a multi-device web.



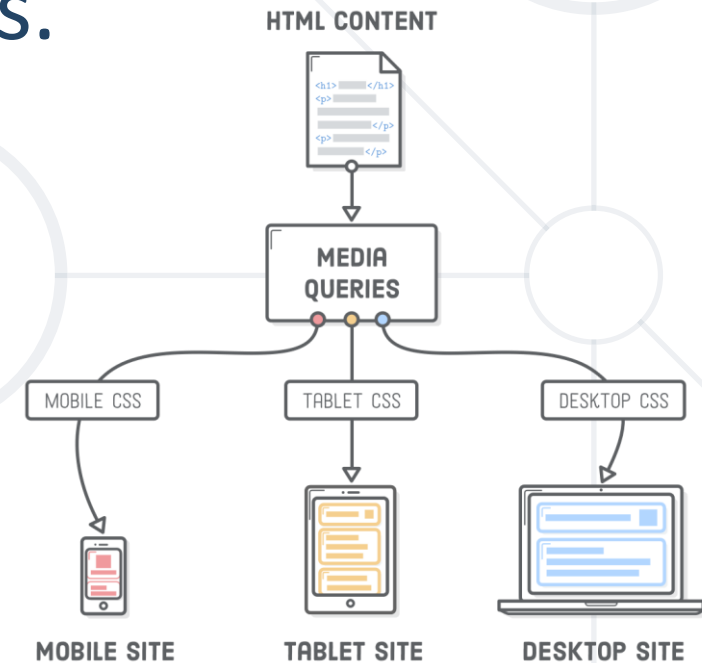
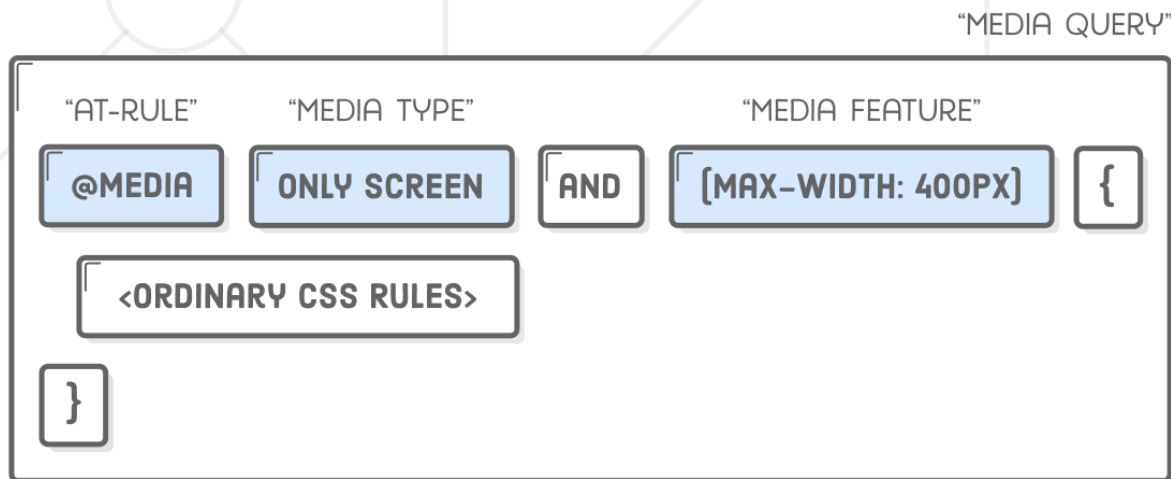
What is Responsive Web Design?

- Ethan Marcotte wrote an introductory article about the approach, Responsive Web Design, for A List Apart.
- https://developer.mozilla.org/en-US/docs/Learn/CSS/CSS_layout/Responsive_Design



Responsive Web Design – How?

- Media Queries - Allow us to run a series of tests (e.g., whether the user's screen is greater than a certain width, or a certain resolution) and apply CSS selectively to style the page appropriately for the user's needs.



- In HTML

- Media Queries can be applied to various elements:
 - In the link element's media attribute, they define the media to which a linked resource (typically CSS) should be applied.
 - In the source element's media attribute, they define the media to which that source should be applied. (This is only valid inside picture elements.)
 - In the style element's media attribute, they define the media to which the style should be applied.

- **Media Types**

- Media types describe the general category of a given device. Although websites are commonly designed with screens in mind, you may want to create styles that target special devices such as printers or audio-based screen readers.

```
@media print { ... }  
@media screen, print { ... }
```

- **@import**

- The **@import** CSS at-rule is used to import style rules from other style sheets. These rules must precede all other types of rules, except @charset rules; as it is not a nested statement, **@import** cannot be used inside conditional group at-rules.

```
@import url('styles.css') screen;
```

- **Media Features**

- Media features describe a specific characteristic of the user agent, output device, or environment:

```
@media screen and (min-width: 600px) {  
  ...  
}
```

- Media Features – **min-width**
 - Specifies a minimal width for the viewport in order to apply the rules included.

```
@media screen and (min-width: 600px) {  
    ...  
}
```

- Media Features – **max-width**
 - Specifies a maximum width for the viewport up to which it will apply the rules included.

```
@media screen and (max-width: 600px) {  
    ...  
}
```

- Media Features – **orientation**
 - Specifies a device orientation for which it will apply the rules included.

```
@media screen and (orientation: landscape) {  
  ...  
}
```

- Media Features – **hover**
 - Checks for a device ability for which it will apply the rules included.

```
@media screen and (hover: hover) {  
  ...  
}
```

- Media Features – **pointer**
 - Checks for a device ability for which it will apply the rules included.

```
@media screen and (pointer: fine) {  
  ...  
}
```


- **Logical operators**

- The logical operators not, and, and only can be used to compose a complex media query. You can also combine multiple media queries into a single rule by separating them with commas.

```
@media screen and (pointer: fine) {  
  ...  
}
```

- Logical operators – **and**
 - The and operator is used for combining multiple media features together into a single media query, requiring each chained feature to return true in order for the query to be true. It is also used for joining media features with media types.

```
@media screen and (pointer: fine) {  
  ...  
}
```

- Logical operators – **not**
 - The not operator is used to negate a media query, returning true if the query would otherwise return false. If present in a comma-separated list of queries, it will only negate the specific query to which it is applied. If you use the not operator, you must also specify a media type.

```
@media screen not (pointer: fine) {  
  ...  
}
```

- Logical operators – **only**
 - The only operator is used to apply a style only if an entire query matches and is useful for preventing older browsers from applying selected styles. If you use the only operator, you must also specify a media type.

```
@media only screen and (pointer: fine) {  
    ...  
}
```

- Logical operators – , (comma)
 - Commas are used to combine multiple media queries into a single rule. Each query in a comma-separated list is treated separately from the others. Thus, if any of the queries in a list is true, the entire media statement returns true. In other words, lists behave like a logical or operator.

```
@media (min-height: 680px), only screen and (orientation: portrait) {  
    ...  
}
```



Media Queries - Let's try it ...

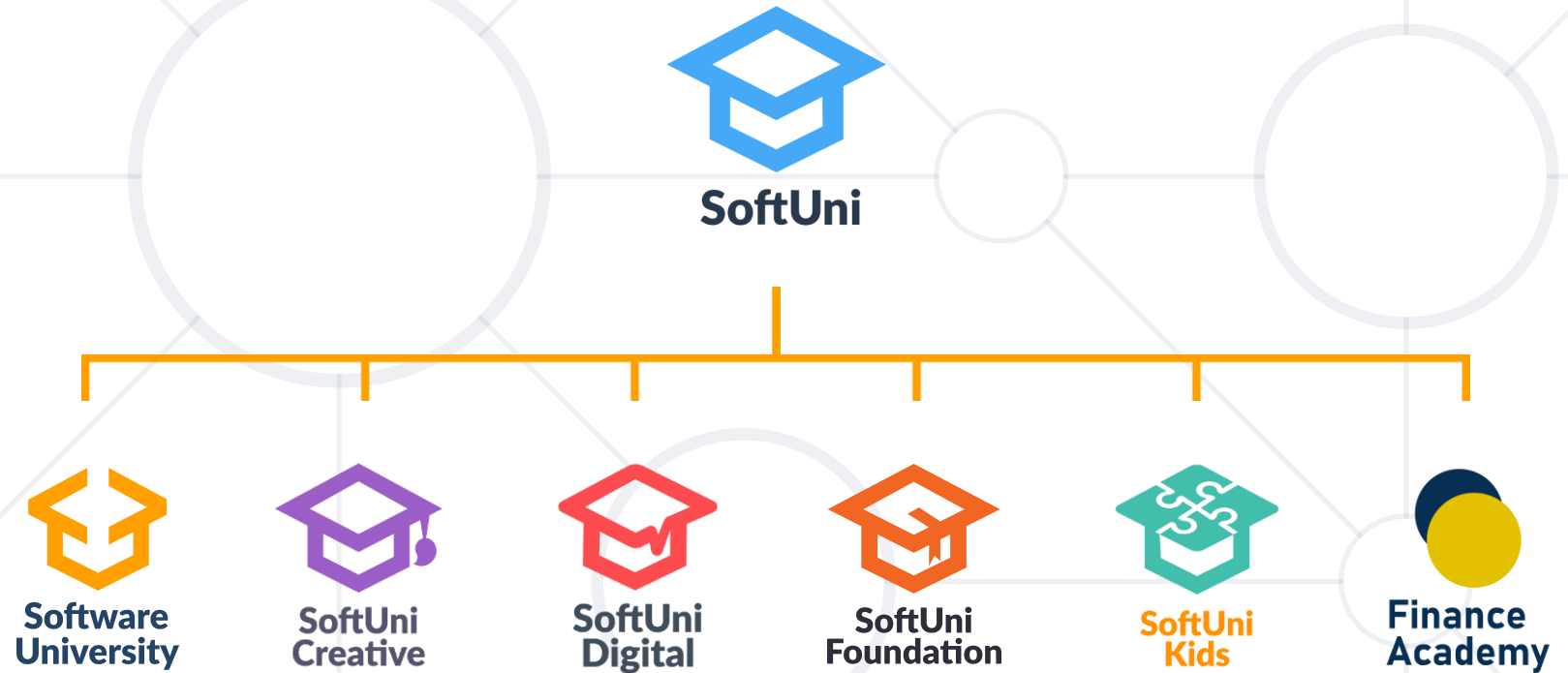
Demo

- https://developer.mozilla.org/en-US/docs/Web/CSS/Media_Queries
- <https://developer.mozilla.org/en-US/docs/Web/CSS/@import>
- [https://developer.mozilla.org/en-US/docs/Web/CSS/Media_Queries/Testing media queries](https://developer.mozilla.org/en-US/docs/Web/CSS/Media_Queries/Testing_media_queries)
- [https://developer.mozilla.org/en-US/docs/Web/CSS/Media_Queries/Using media queries#Media features](https://developer.mozilla.org/en-US/docs/Web/CSS/Media_Queries/Using_media_queries#Media_features)
- <https://caniuse.com/#feat=css-mediaqueries>
- <https://css-tricks.com/snippets/css/media-queries-for-standard-devices/>
- <https://responsivedesign.is/articles/why-you-dont-need-device-specific-breakpoints/>
- <https://davidwalsh.name/animate-media-queries>
- <https://mediaqueri.es/>
- <https://responsivedesign.is/>

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Questions?



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