

# Responsive Web Design

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# 웹 환경의 변화

# 모바일 디바이스의 등장



# 모바일 환경을 위한 별도의 대응



# One Source Multi Use



# 반응형 웹의 필요성 대두

# Flexible VS Adaptive



# Flexible Web Design





# Adaptive Web Design

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## Adaptive Web Design

Crafting Rich Experiences with Progressive Enhancement

by Aaron Gustafson

Foreword by Jeffrey Zeldman

*"Adaptive Web Design not only provides the clearest, most beautiful explanation of progressive enhancement I've ever read, it's also packed full of practical know-how pumped directly into your neurons through Aaron's warm and friendly writing style. If you aren't already using progressive enhancement to build websites, you soon will be."*

— Jeremy Keith, author, *HTML5 for Web Designers*

Don't believe Jeremy?  
Read a sample for yourself

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### ABOUT THE BOOK

The web is an ever-changing landscape where scripts, applications, modules and plugins continue to grow on a daily basis. If you're worked on the web for any amount of time, you're likely bored or even used the term "progressive enhancement." Does the term's inception, it has been considered a best practice for approaching web design, but what is it really? And how do we reconcile its meaning with the rapid evolution of the language and browser we rely on to do our jobs?

In this book, Aaron Gustafson describes the origins of progressive enhancement, its philosophy, and practicalities, and reveals the essential practical ways that you can apply progressive enhancement principles using HTML, CSS, and JavaScript. By understanding progressive enhancement and how to apply it properly, web practitioners can craft experiences that were once (rather than become) going from screen to screen without technological restrictions.

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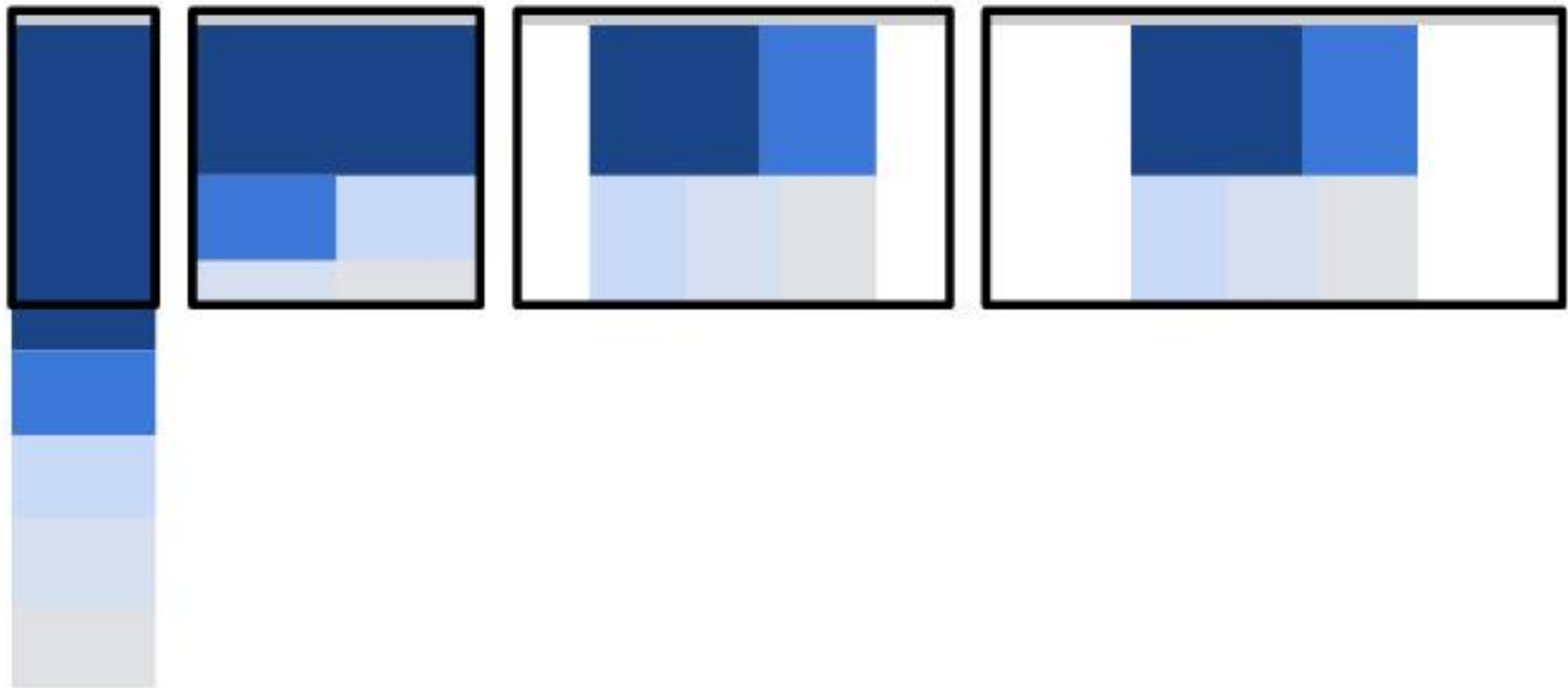
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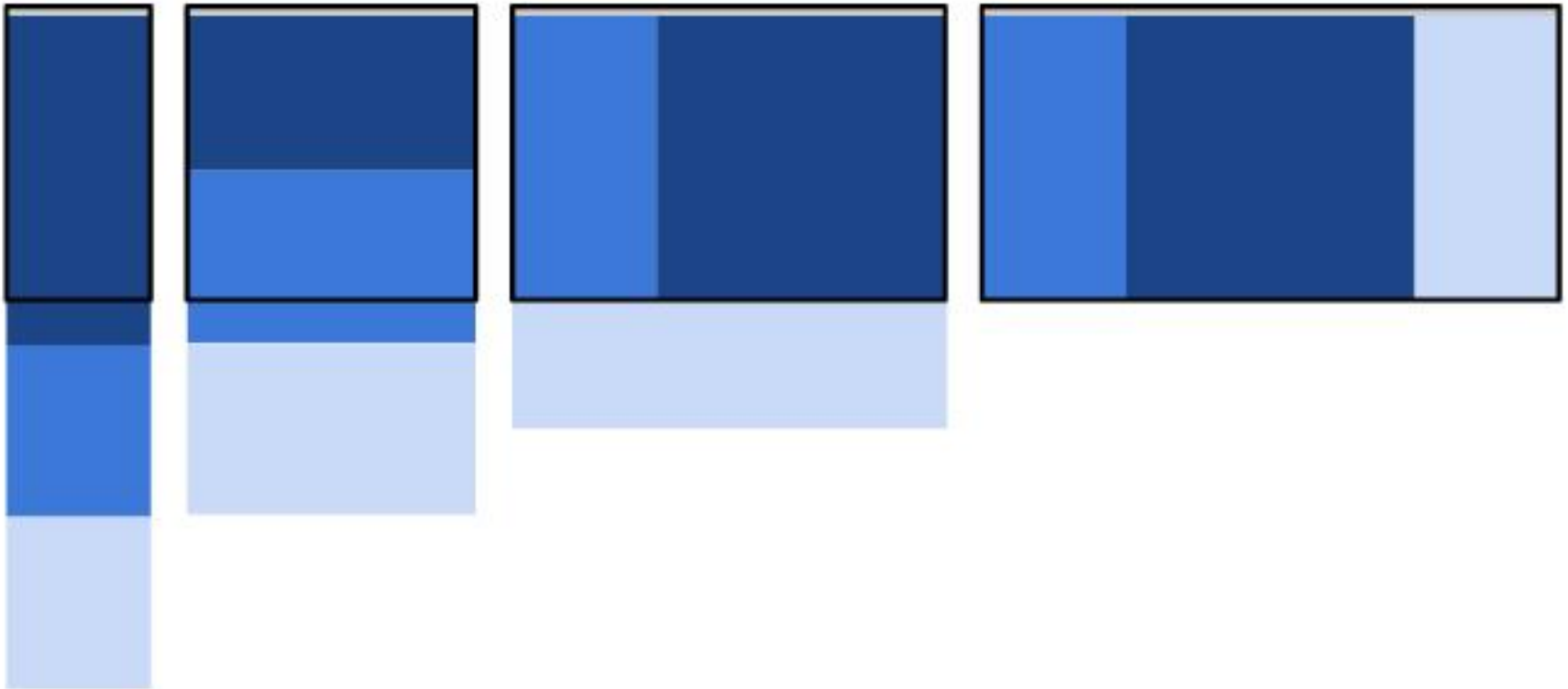
— Jeremy Keith, author, *HTML5 for Web Designers*

# RWD Design Patterns

# Mostly Fluid



# Column Drop



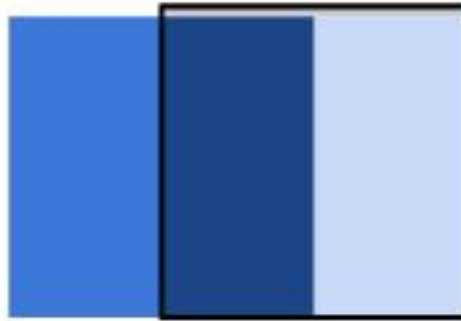
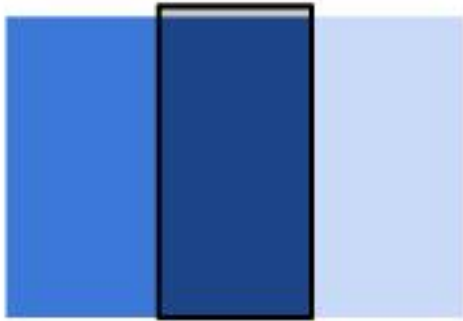
# Layout Shift



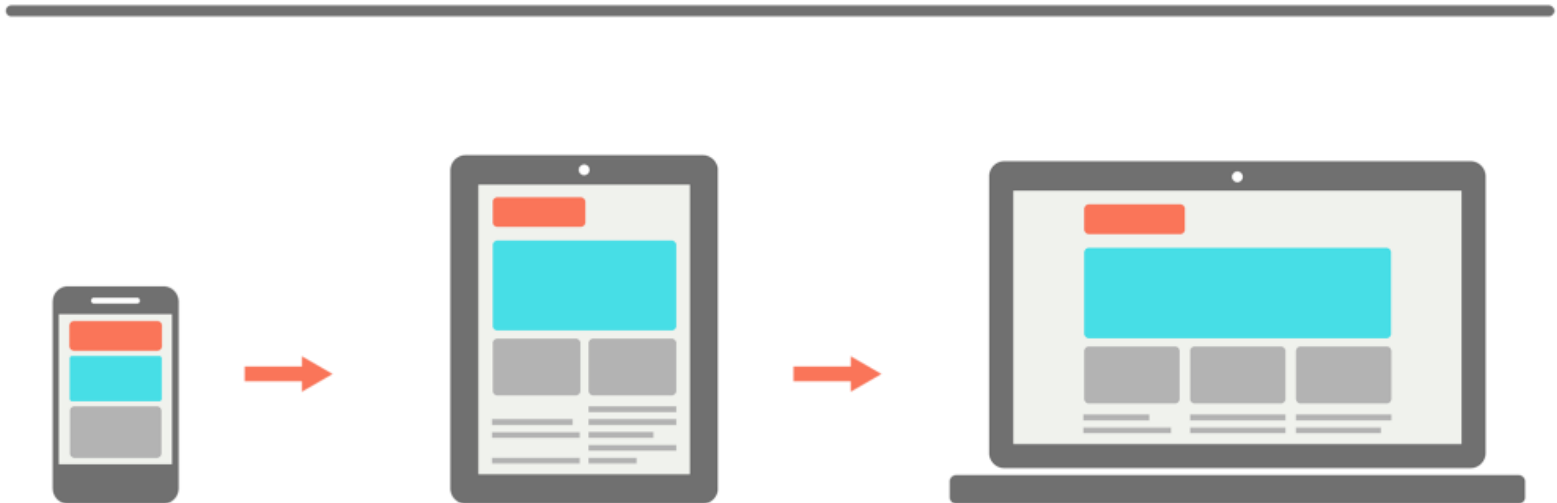
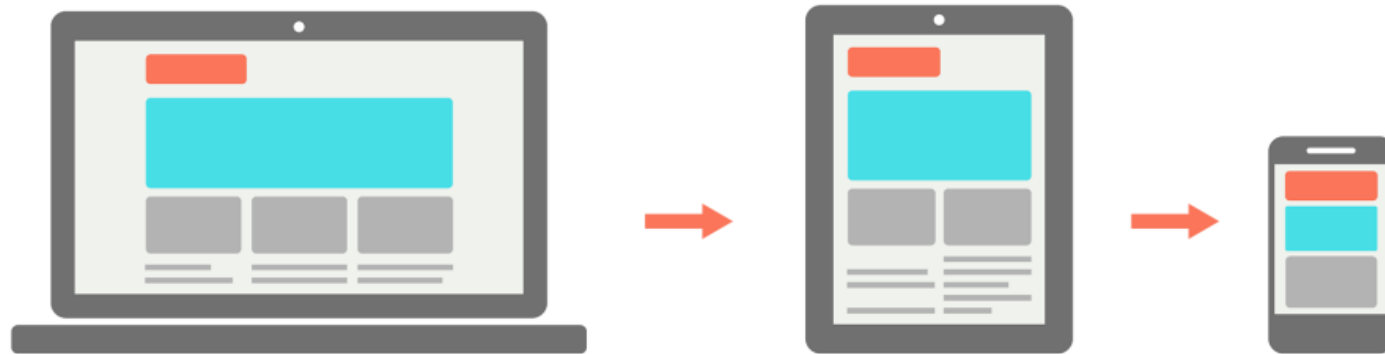
# Tiny Tweaks



# Off Canvas



# DeskTop First VS Mobile First





# RWD Architecture

# Flexible Layout

**Target** ÷ **Context** = **Result**

$$900 \div 960 = 0.9375$$

# Media Queries

```
@charset "utf-8";
```

```
/* All Device */
```

모든 해상도를 위한 공통 코드를 작성한다.

```
/* Mobile Device */
```

768px 미만 해상도의 모바일 기기를 위한 코드를 작성한다.

```
/* Tablet & Desktop Device */
```

```
@media all and (min-width:768px) {
```

사용자 해상도가 768px 이상일 때 이 코드가 실행됨.

```
}
```

```
/* Tablet Device */
```

```
@media all and (min-width:768px) and (max-width:1024px) {
```

사용자 해상도가 768px 이상이고 1024px 이하일 때 이 코드가 실행됨.

```
}
```

```
/* Desktop Device */
```

```
@media all and (min-width:1025px) {
```

사용자 해상도가 1025px 이상일 때 이 코드가 실행됨.

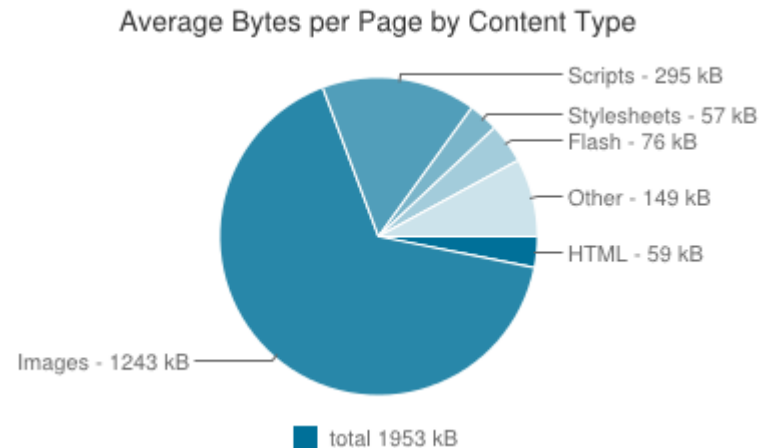
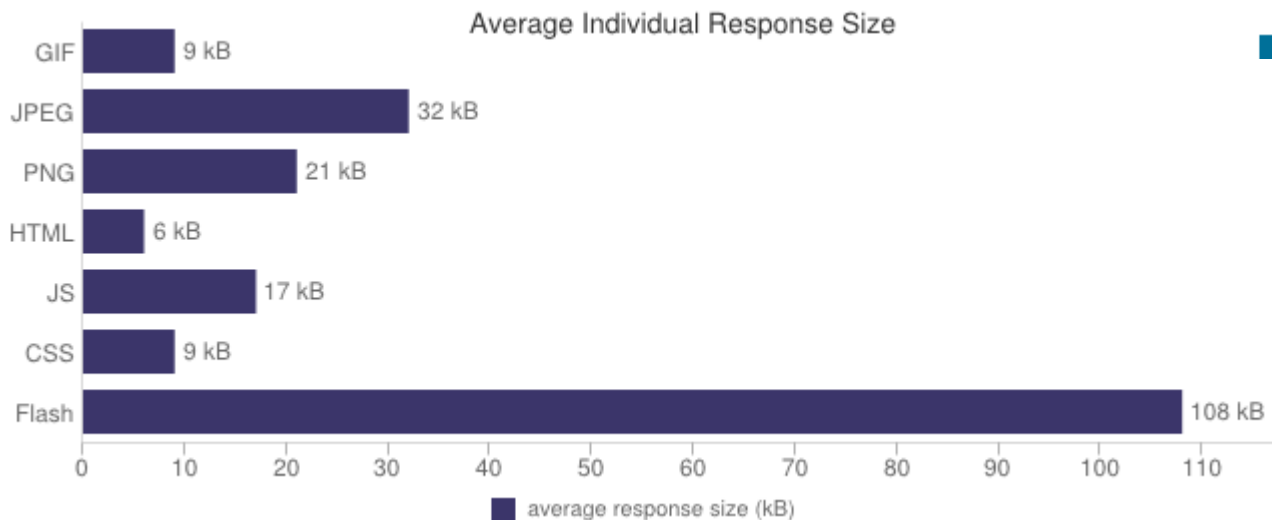
```
}
```

# Responsive Image

```
img {  
    max-width : 100% ;  
    height : auto ;  
}
```

# Responsive Image Issue

# 성능/속도 및 대역폭



# 고해상도 디스플레이



**Normal**



**Retina Display**

# 아트 디렉션(Art Direction) 처리



Original Image



Scaled down



Cropped



# 다양한 이미지 포맷 대응

벡터 형식의 이미지인 **SVG**

구글에서 제안한 **WebP**

마이크로소프트의 **JPEG-XR**

**FlashPix** 같은 형식

# 해결방안

# srcset과 sizes 속성

```

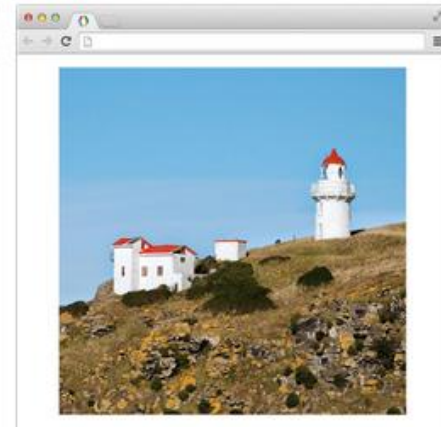
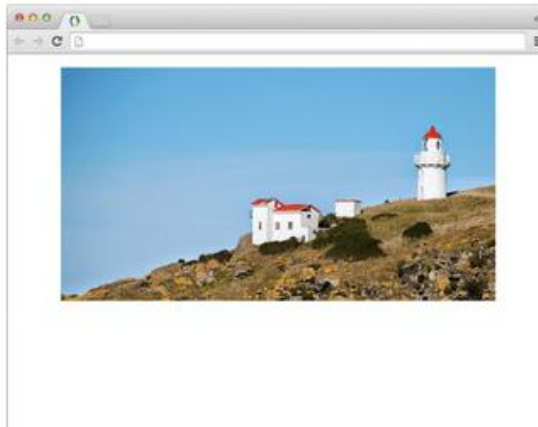
```

# <picture> element

```
<picture>
  <source media="(min-width: 40em)"
    srcset="big.jpg 1x, big-hd.jpg 2x">
  <source
    srcset="small.jpg 1x, small-hd.jpg 2x">
  
</picture>
```

# <picture> element

```
<picture>
  <source media="(min-width: 800px)"
    sizes="80vw"
    srcset="lighthouse-landscape-640.jpg 640w,
            lighthouse-landscape-1280.jpg 1280w,
            lighthouse-landscape-2560.jpg 2560w">
  
</picture>
```



# device-pixel-ratio

```
.rwd-bg {  
  width : 100px;  
  height : 100px;  
  background : url(img/bg.png) no-repeat;  
  background-size : cover ;  
}  
/* 고 해상도 디스플레이 감지 */  
@media only screen and (min-device-pixel-ratio: 2){  
  .rwd-bg {  
    background-image : url(img/@2x/bg.png');  
  }  
}
```

# 그 밖의 방법


<http://jquerypicture.com/>

<http://www.grahambird.co.uk/lab/doubletake/>

<http://foundation.zurb.com/docs/components/interchange.html>

<http://imulus.github.io/retinajs/>

<http://responsejs.com/>



**감사합니다.**