

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



The British Doctor

INQUIRER

"Give me problems, give me work."

In the year 1871 took my degree of Doctor of Medicine at the University of London, and proceeded to India to go through the course prescribed by regulations of the army. Having remained six weeks there, I was due to return to the 15th Northumberland Fusiliers at Amoy, China. The regiment was stationed in India at the time, and before I could join it, the second division was sent to the front. It being a long time, I learned that the corps had advanced through the passes, and was already deep in the enemy's country.

THE
WARRIOR

THE
DOCTOR

THE
WARRIOR

victors & villains

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Adaptive Web Design

easy readers presents...



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 awareness through Aaron's warm and friendly writing style. If you aren't already using progressive enhancement to build websites, you soon will be."

— James Keith, Author HTML5 for Web Designers

Don't believe Jeremy?
Read a sample for yourself

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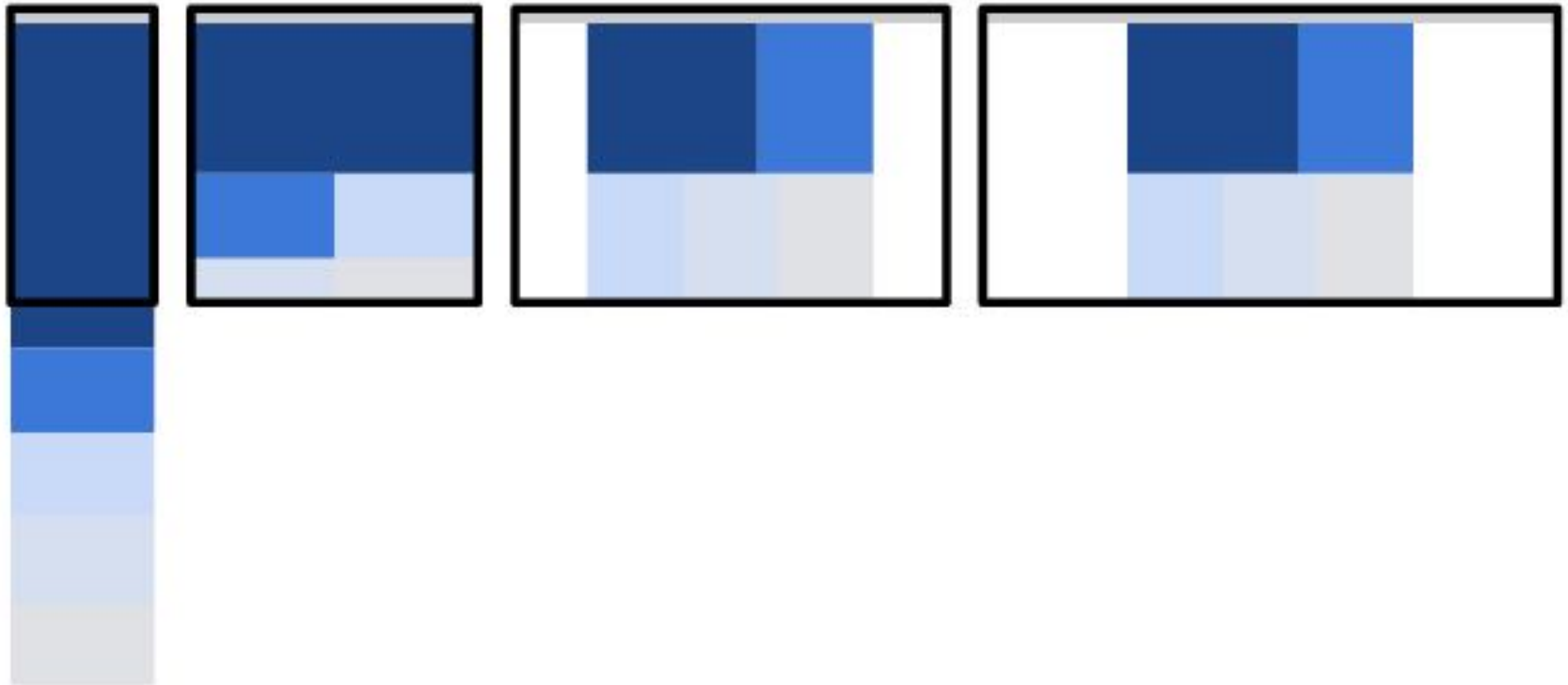
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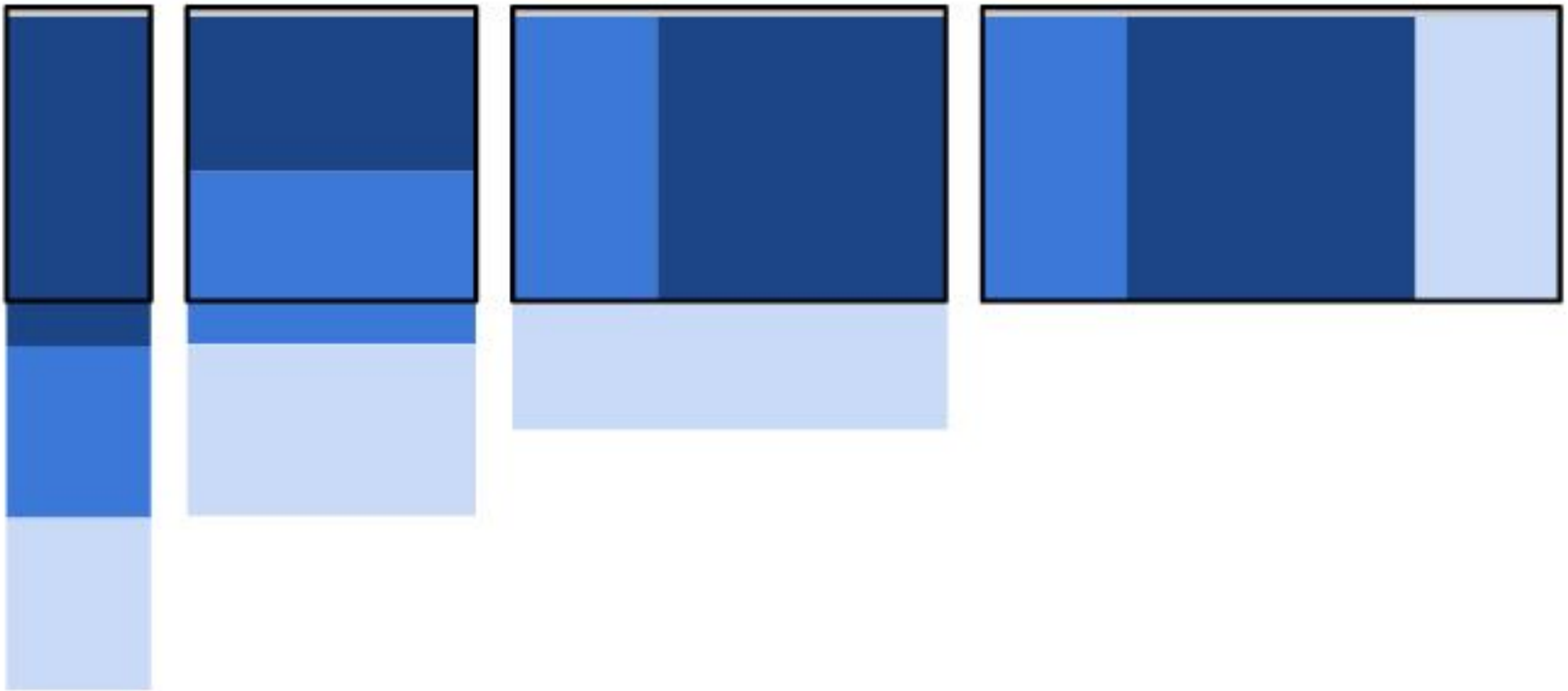
— James Keith, Author HTML5 for Web Designers

RWD Design Patterns

Mostly Fluid



Column Drop



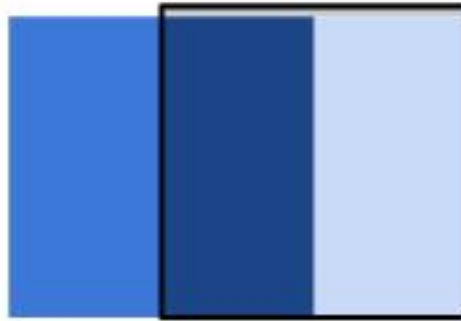
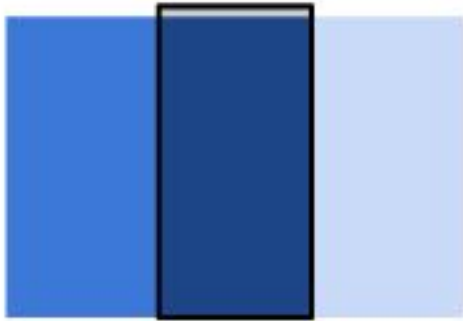
Layout Shift



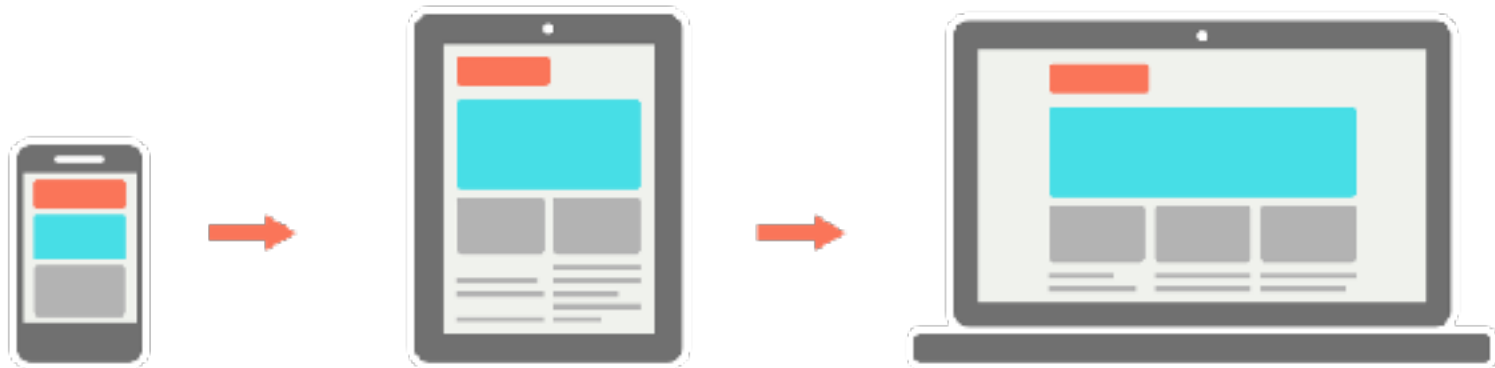
Tiny Tweaks



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.

```
}
```

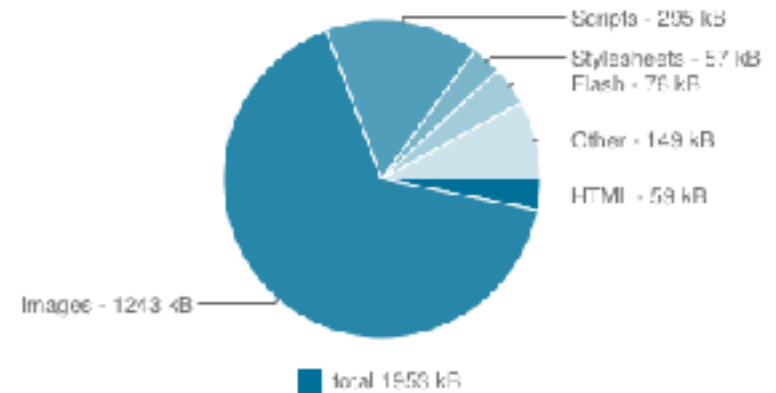
Responsive Image

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

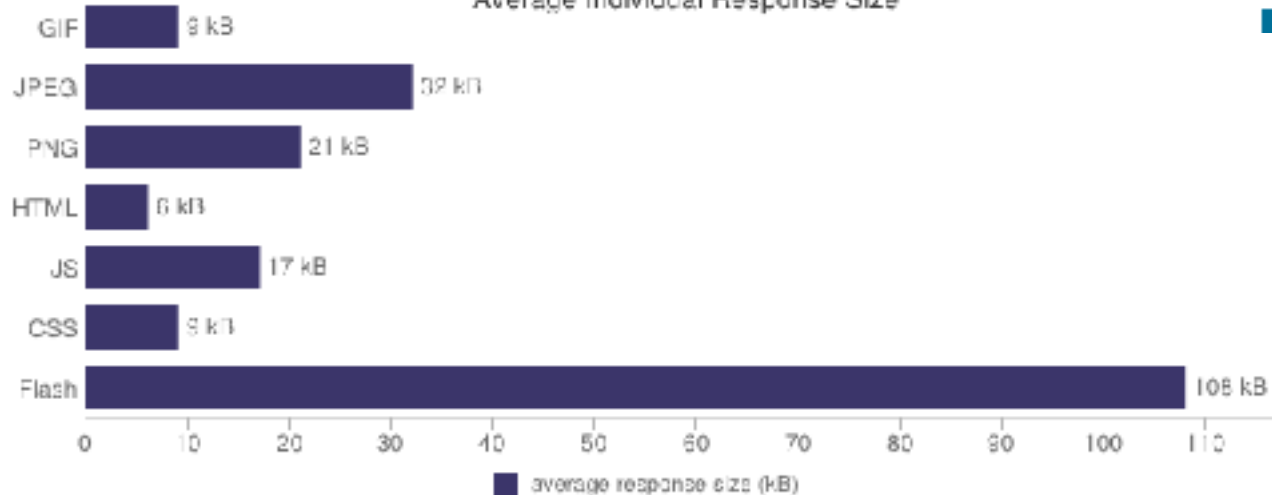
Responsive Image Issue

성능/속도 및 대역폭

Average Bytes per Page by Content Type



Average Individual Response Size



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.