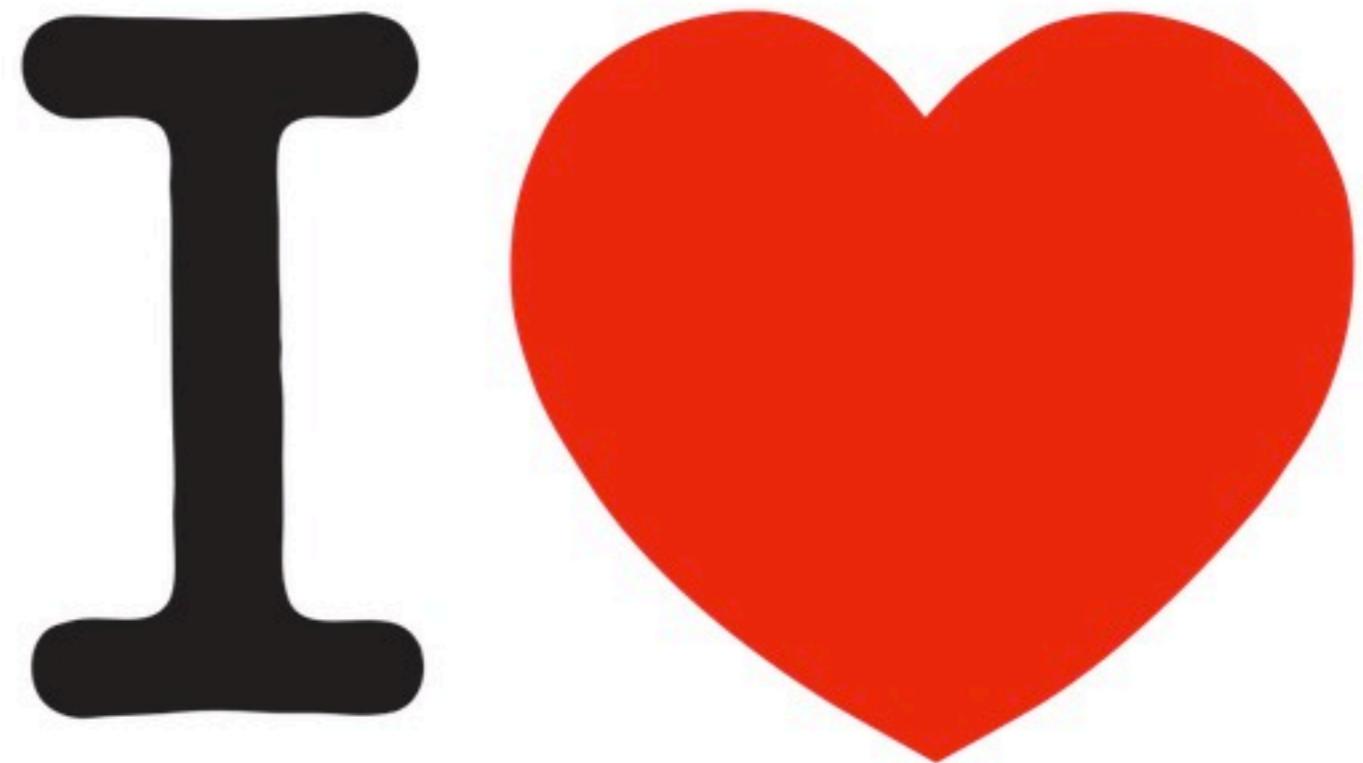


Nowoczesny (Mobile) Web Development



Mateusz Kwaśniewski
Krzysztof Kula



WTWTFW

®



25





HTML
UX
CSS
JS
WPO
OOP
Functional Programming
Java
Groovy
node.js
Clojure
Data Science
Cloud
Unix
HTTP

ROCKSTAR NINJA GURU DEVELOPER



Never met a job description I don't fit



HTML
UX
CSS
JS
WPO
OOP
Functional Programming
Java Groovy
node.js Clojure
Data Science
Cloud
Unix
HTTP

Schibsted Tech Polska
zaprasza na otwarty wykład
w języku polskim na temat:

Mobile Web z HTML5



Wykładowca:
Mateusz Kwaśniewski
Krzysztof Kula
(Schibsted Tech Polska)
Opiekun:
Piotr Nawrocki (AGH)

W ramach wykładu poruszymy
takie kwestie jak:

- ▷ Rynek aplikacji mobilnych – eksplozja popularności
- ▷ Mobile Web czy aplikacje natywne
- ▷ Responsive Web Design
- ▷ HTML5: nowe znaczniki, touch events, tryb offline
- ▷ Nowoczesny Javascript

Data i czas: **21.03.2013**
godzina **17:00 – 18:30**
Miejsce:
sala 2.41 budynek D-17
(AGH, ul. Kawiory 21)

2013



Nowoczesny (Mobile) Web Development

Nowoczesny (Mobile) Web Development

Nowoczesny (Mobile) Web Development

**Nowoczesny (Mobile)
Web Development**

Nowoczesny (Mobile) Web Development

natywne
kontra
webowe



natywne
&
webowe

nasz kontekst

Kanał
informacyjny

Produkt

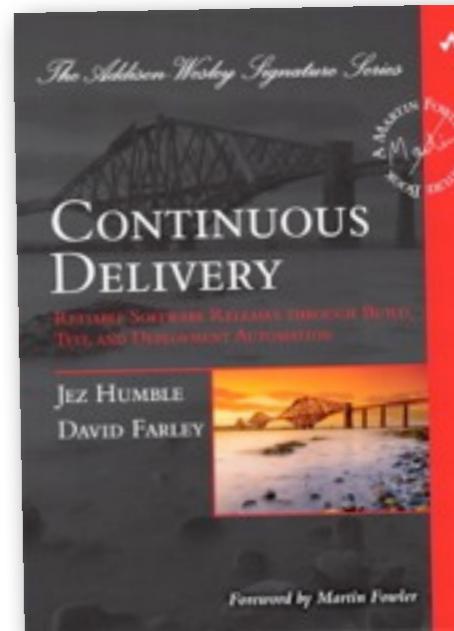


Częste Eksperymenty

Hipoteza



Weryfikacja



Linki

http://

mojaplikacja://

Koszt wytwarzania oprogramowania

“Napisz raz, uruchamiaj wszędzie”

- Sun Microsystems

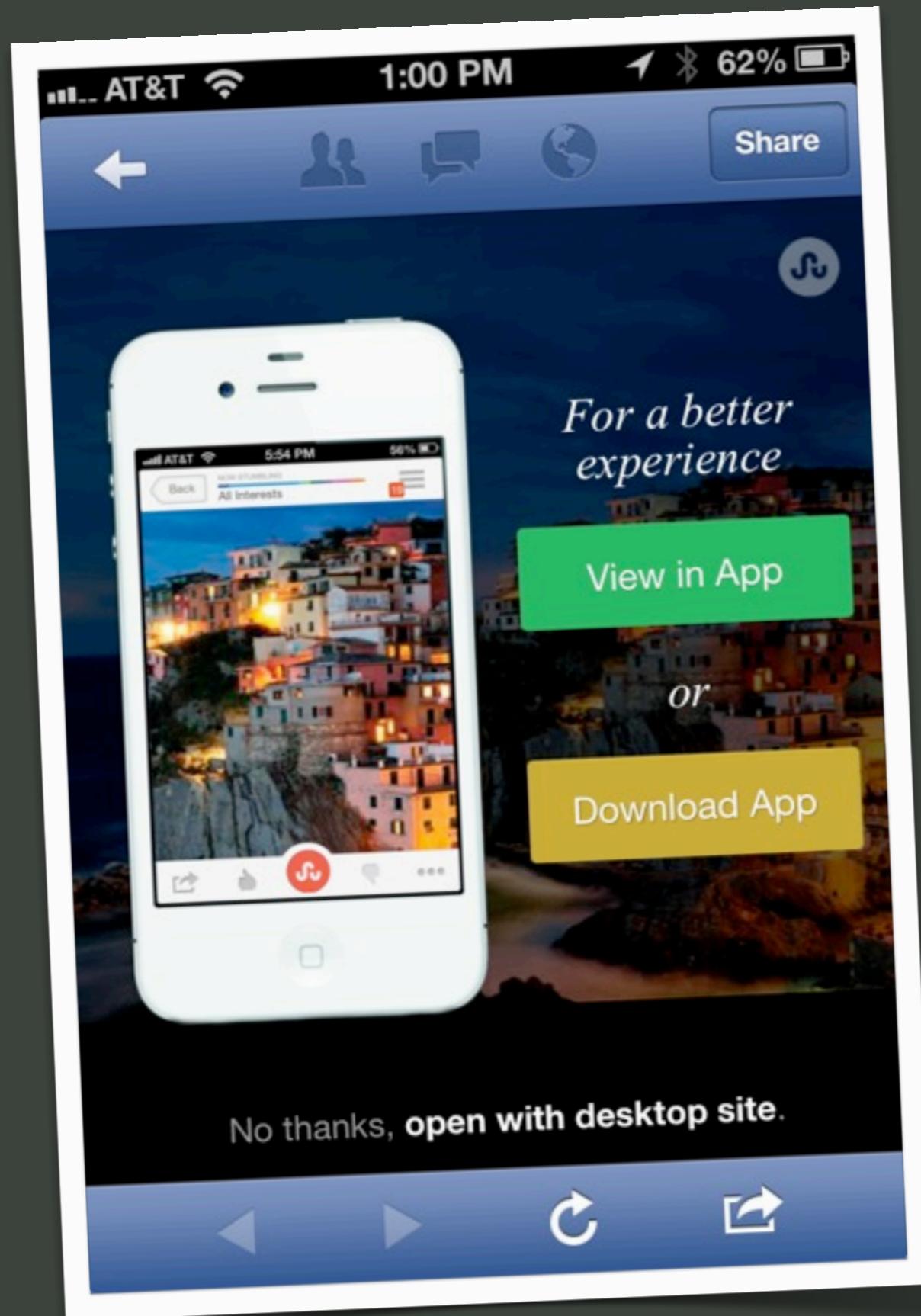
Dostępność programistów

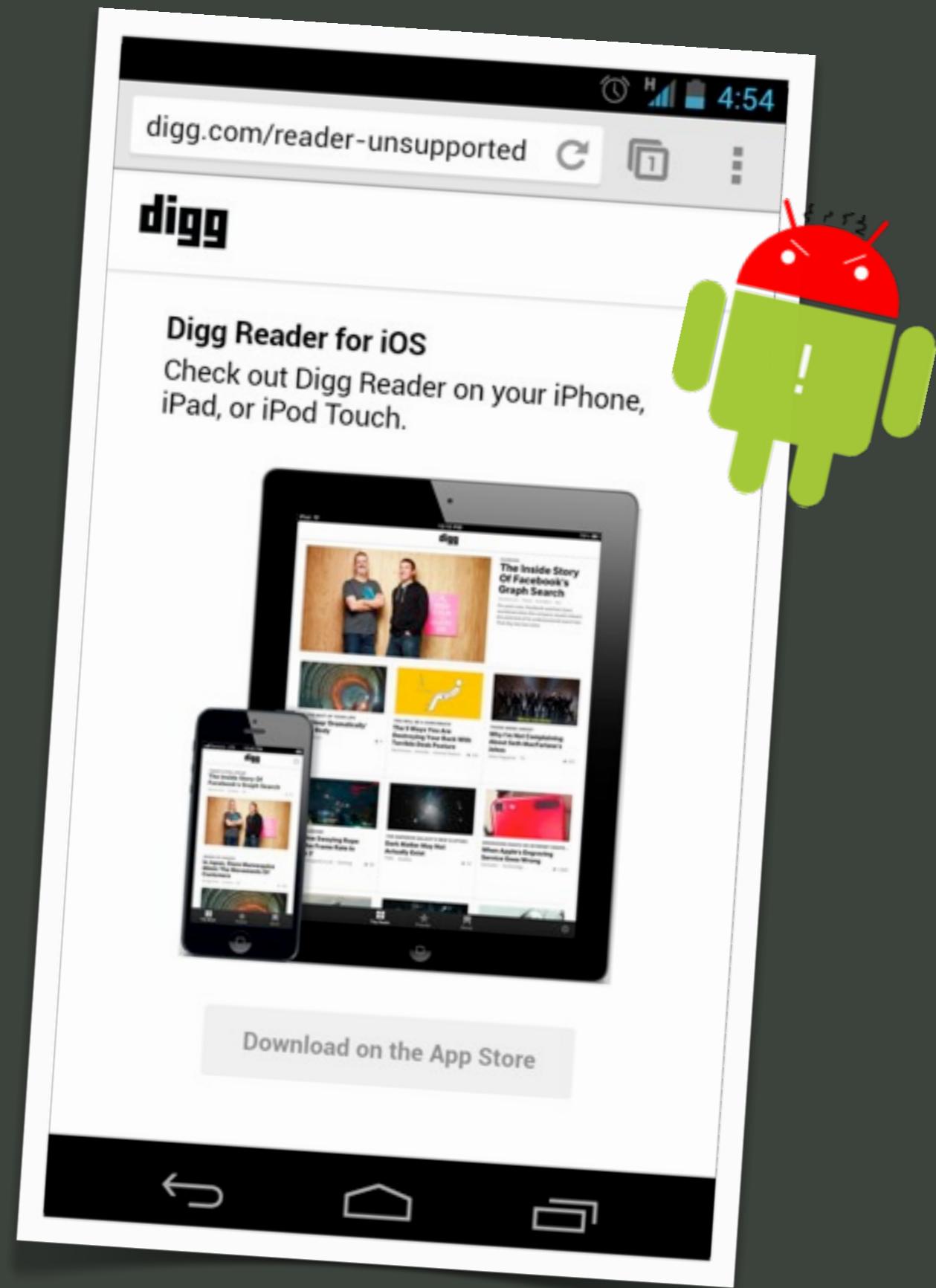


Instrukcja

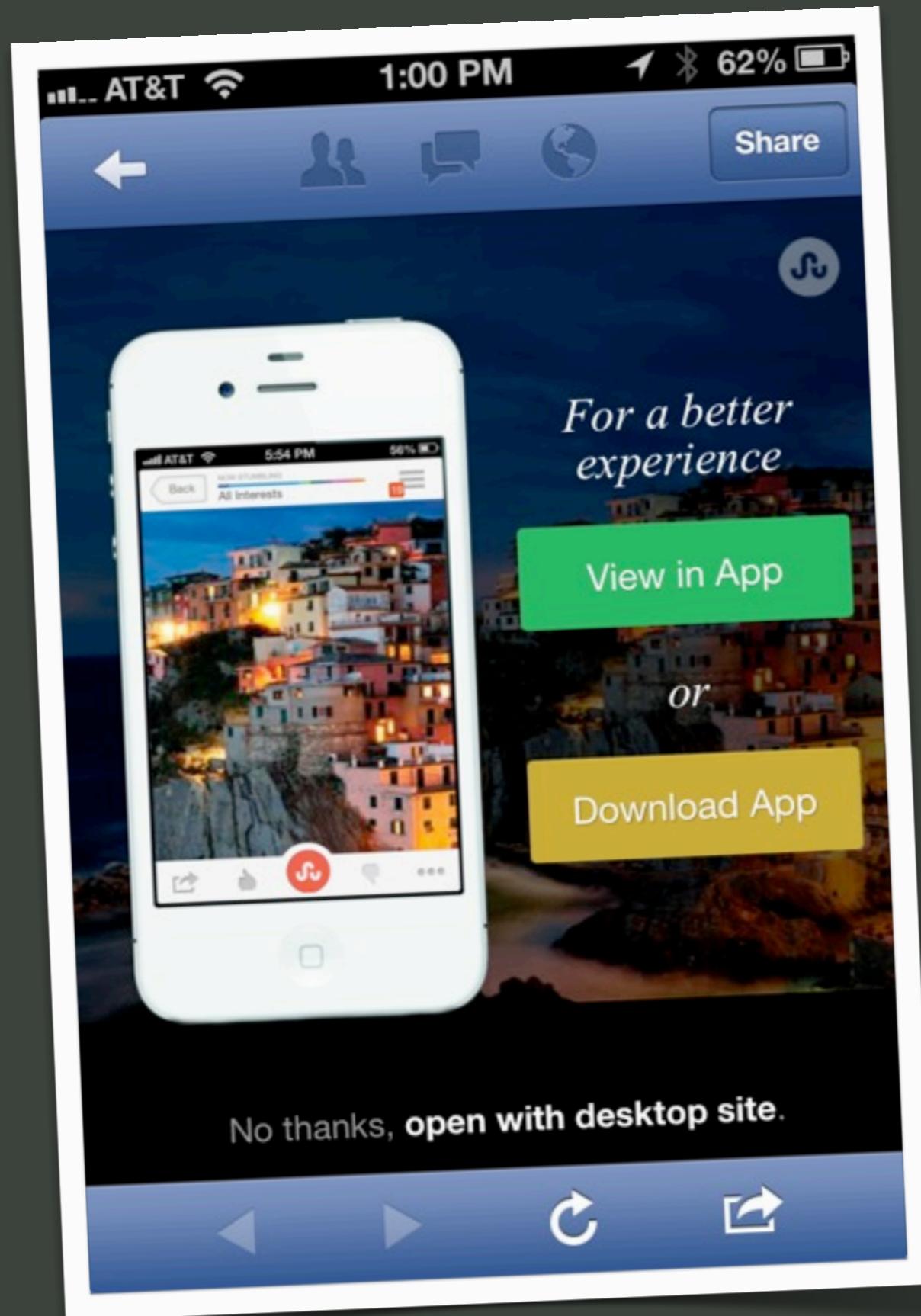
Jak utrudnić życie
użytkownikom waszej
strony?







Ale dlaczego?



Przykładowa Aplikacja

Tutorial



Verden

Malaysisk fly savnet:

Kan være den verste flyulykken siden
2003



Meninger

Dagrun Eriksen kaller 8. mars-
engasjement pinlig. Dét er pinlig.

Meninger

Dagrun Eriksen kaller 8. mars-engasjement pinlig. Dét er pinlig.



Oljesøl funnet nær
mistenkta
ulykkessted



Kvinnedagen:

- Vi feirer ikke det kjønnet vi er – vi viser kampene som ennå må kjempes



NÅ: Arsenal-Everton
Følg FA-cupen og
Premier League



Morten Gamst
Pedersen til RBK



Reservasjons-
legene minner oss
om noe vi nesten
har glemt

har glemt



Therese Johaug: -
Det er et jag etter å
se bra ut



- Det var grusomt
å gå på ski frem til
jeg var ni år



Følg femmila i
Kollen her:
Hvem vinner
dagens
manndomsprøve?

[Tilbake til toppen](#)

Aftenposten



TIPS OSS! Tipstelefon 02286 Tips på e-post
2286@aftenposten.no SMS/MMS 2286

Sentralbord 22 86 30 00 Kundeservice 05040
Adresse Biskop Gunnerus' gate 14A, 0185 OSLO

Ansvarlig redaktør [Espen Egil Hansen](#)
Nyhetsredaktør [Kjetil Kolsrud \(konst.\)](#) Politisk
redaktør [Harald Stanghelle](#) Utviklingsredaktør
[Skjalg Engebø](#)

Adm. dir. Sondre Gravir Adm. dir. Aftenposten

NIPS 0551. Tidspunktet 022800. Tips på e-post
2286@aftenposten.no SMS/MMS 2286

Sentralbord 22 86 30 00 Kundeservice 05040
Adresse Biskop Gunnerus' gate 14A, 0185 OSLO

Ansværlig redaktør Espen Egil Hansen
Nyhetsredaktør Kjetil Kolsrud (konst.) Politisk
redaktør Harald Stanghelle Utviklingsredaktør
Skjalg Engebø

Adm. dir. Sondre Gravir Adm. dir. Aftenposten
mobil Anette Mellbye

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beskyttet. Personvern. Aftenposten arbeider etter Vær
Varsom-plakatens regler for god preseskikk. Aftenposten har
ikke ansvar for innhold på eksterne nettsider som det lenkes til.

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[KUNDESERVICE](#) | [MIN SIDE](#) | [SPØRSMÅL OG SVAR](#)

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```
<html>
  <head>...</head>
  <body>
    <div class="header">...</div>
    <div class="articles">...</div>
    <div class="footer">...</div>
  </body>
</html>
```

Przedstawmy się
przeglądarce jako
strona **HTML5**

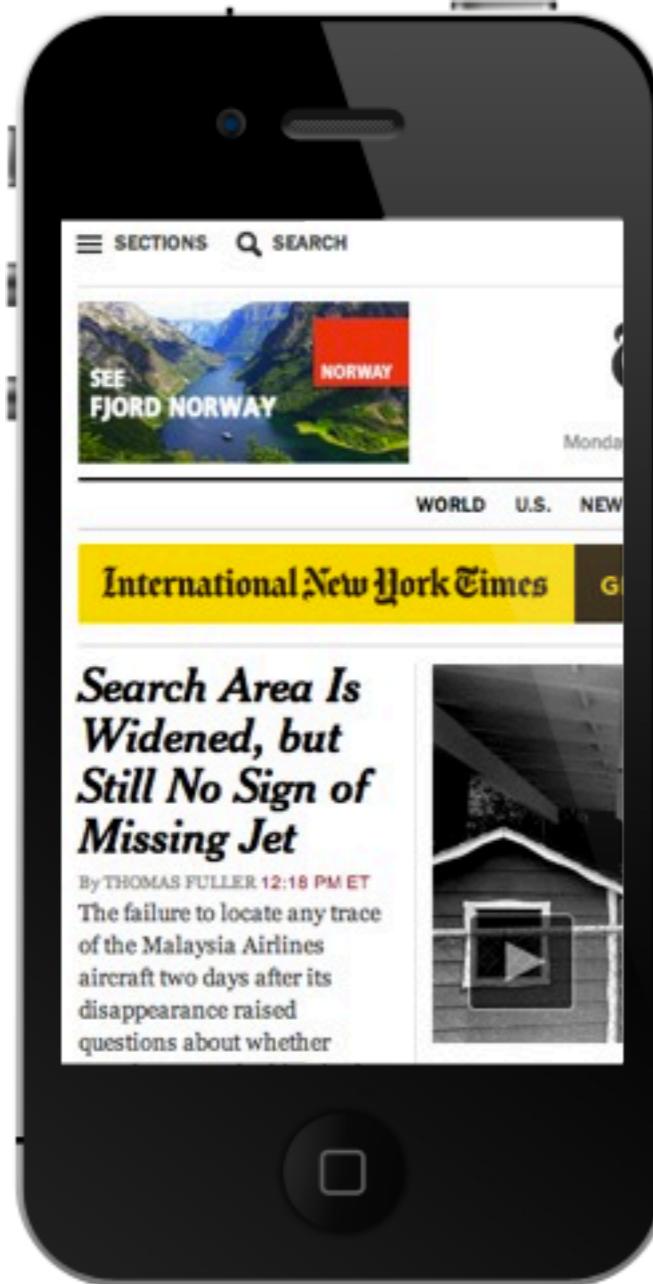
```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML  
1.0 Transitional//EN" "http://www.w3.org/TR/  
xhtml1/DTD/xhtml1-transitional.dtd">
```

```
<!DOCTYPE html bla bla bla bla>
```

```
<!DOCTYPE html>
```



viewport



The New York Times

U.S. INTERNATIONAL 中文网

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New York - Bergen
from / one way \$279 * incl. taxes

March 10, 2014 | Today's Paper | Personalize Your Weather |

WORLD U.S. NEWS

K BUSINESS OPINION SPORTS SCIENCE ARTS FASHION & STYLE VIDEO All Sections

International New York Times

GLOBAL COVERAGE THAT GOES EVERYWHERE YOU DO. 99¢ FOR 12 WEEKS GET IT NOW >

Search Area Is Widened, but Still No Sign of Missing Jet

By THOMAS FULLER 12:18 PM ET

The failure to locate any trace of the Malaysia Airlines aircraft two days after its disappearance raised questions about whether

McMARTIN PRE-SCHOOL

school: Anatomy of a Panic

California began in 1987 after accusations of satanic rituals from a mother whose mental health issue in the case.

TURMOIL IN UKRAINE

Russia Prepares Diplomatic Plan for Ukraine

By STEVEN ERLANGER 46 minutes ago

Russia said Monday that it cannot accept the "fait accompli" of a Western-backed government in Ukraine.

A Dot on the Map, After Scandal, Could Be Wiped Off

By LIZETTE ALVAREZ 46 minutes ago

Fund Pulls the Levers of Power

By MICHAEL S. SCHMIDT, ERIC LIPTON and ALEXANDRA STEVENSON

The activist hedge fund Elliott Management has pulled the levers of power at Herbalife, then launched an investigation into the supplement company's accounting practices.

What Became of the Missing?

Republicans Balk at Wording in Aid Package

MARKETS » At 2:53 PM ET

S&P 500	Dow	Nasdaq
1,874.68	16,396.21	4,327.94
-3.36	-56.51	-8.28
-0.18%	-0.34%	-0.19%

International New York Times 99¢ FOR YOUR FIRST 12 WEEKS GET IT NOW >

Get Quotes | My Portfolios »

International New York Times

320px

980px





```
<head>
  ...
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  ...
</head>
```

viewport width = device width

initial-scale = 1.0



Semantyczne tagi **HTML5**

```
<div class="header">...</div>
<div class="articles">
    <div class="article">...</div>
    <div class="article">...</div>
    <div class="article">...</div>
</div>
<div class="footer">...</div>
```

```
<header>...</header>
<section class="articles">
  <article>...</article>
  <article>...</article>
  <article>...</article>
</section>
<footer>...</footer>
```

Wydeptane ścieżki



Mentalność prasy drukowanej





przed iphonem

po iphonie





Responsive Web Design

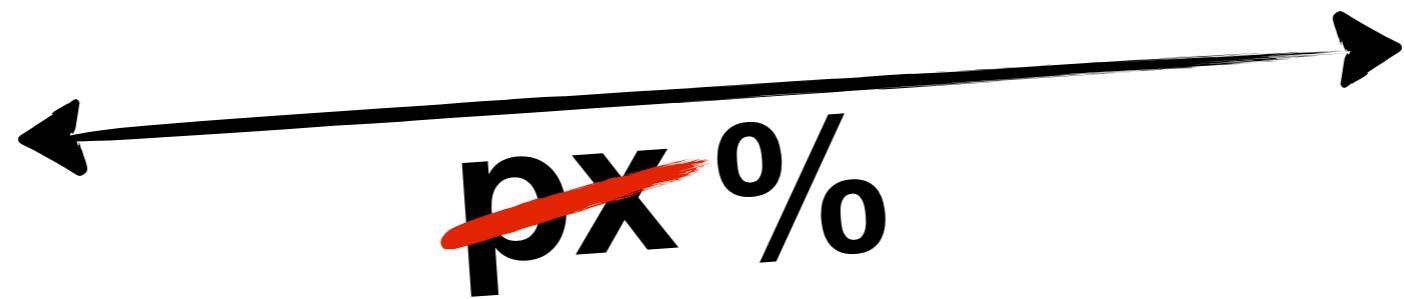
dla naprawdę zajętych studentów

Responsive Web Design

dla naprawdę zajętych studentów

w 2 krokach

Szerokość



A horizontal double-headed arrow pointing left and right, with the word "px %" written across its center.

px %





font-size: ~~px~~ rem

font-size: ~~px~~ rem

```
html { font-size: 62.5%; } /* 62.5% * 16px = 10px */
h1 { font-size: 2.4rem; } /* =24px */
p { font-size: 1.4rem; } /* =14px */
li { font-size: 1.4rem; } /* =14px */
```

font-size: ~~px~~ rem

```
html { font-size:62.5%; } /* 62.5% * 16px = 10px */
h1 { font-size: 24px; font-size: 2.4rem; } /* =24px */
p { font-size: 14px; font-size: 1.4rem; } /* =14px */
li { font-size: 14px; font-size: 1.4rem; } /* =14px */
```

doctype ✓
viewport ✓
tagi html5 ✓
RWD ✓

microdata

The Boondock Saints (1999) - IMDb

www.imdb.com/title/tt0144117/ ▾

★★★★★ Rating: 7.9/10 - 170,338 votes

Still of Sean Patrick Flanery and Norman Reedus in **The Boondock Saints** (1999) Still of Billy Connolly in **The Boondock Saints** (1999) Still of Sean Patrick ...

[Full Cast & Crew](#) - [Bob Marley](#) - [Pictures & Photos from The ...](#) - [Trivia](#)

The Boondock Saints - Wikipedia, the free encyclopedia

en.wikipedia.org/wiki/The_Boondock_Saints ▾

The Boondock Saints is a 1999 American vigilante film written and directed by Troy Duffy. The film stars Sean Patrick Flanery and Norman Reedus as fraternal ...

[Saints Day](#) - [David Della Rocco](#) - [Troy Duffy](#) - [Murder of Kitty Genovese](#)

```
<article>
  <a href="http://www.aftenposten.no/article7495592.ece">
    
    <span>World</span>
    <h2>This is some interesting title</h2>
  </a>
</article>
```

```
<article itemscope itemtype="http://schema.org/NewsArticle">
  <a href="http://www.aftenposten.no/article7495592.ece" >
    
    <span>World</span>
    <h2>This is some interesting title</h2>
  </a>
</article>
```

```
<article itemscope itemtype="http://schema.org/NewsArticle">
  <a href="http://www.aftenposten.no/article7495592.ece" itemprop="url">
    
    <span itemprop="articleSection">World</span>
    <h2 itemprop="name">This is some interesting title</h2>
  </a>
</article>
```

REST APIs

HTML5 jako media type

bogata semantyka (tagi + microdata)

bogata semantyka (tagi + microdata)

hipermedia (a, link, form, img, audio, video, iframe)

bogata semantyka (tagi + microdata)

hipermedia (a, link, form, img, audio, video, iframe)

narzędzia (przeglądarki, parsery HTML)

ale mój JSON jest mniejszy

strona dla ludzi - CSS - JS = REST API

Javascript



Unobtrusive Javascript

lazy-loading obrazków

```
  
<noscript></noscript>
```



```

<noscript></noscript>
```

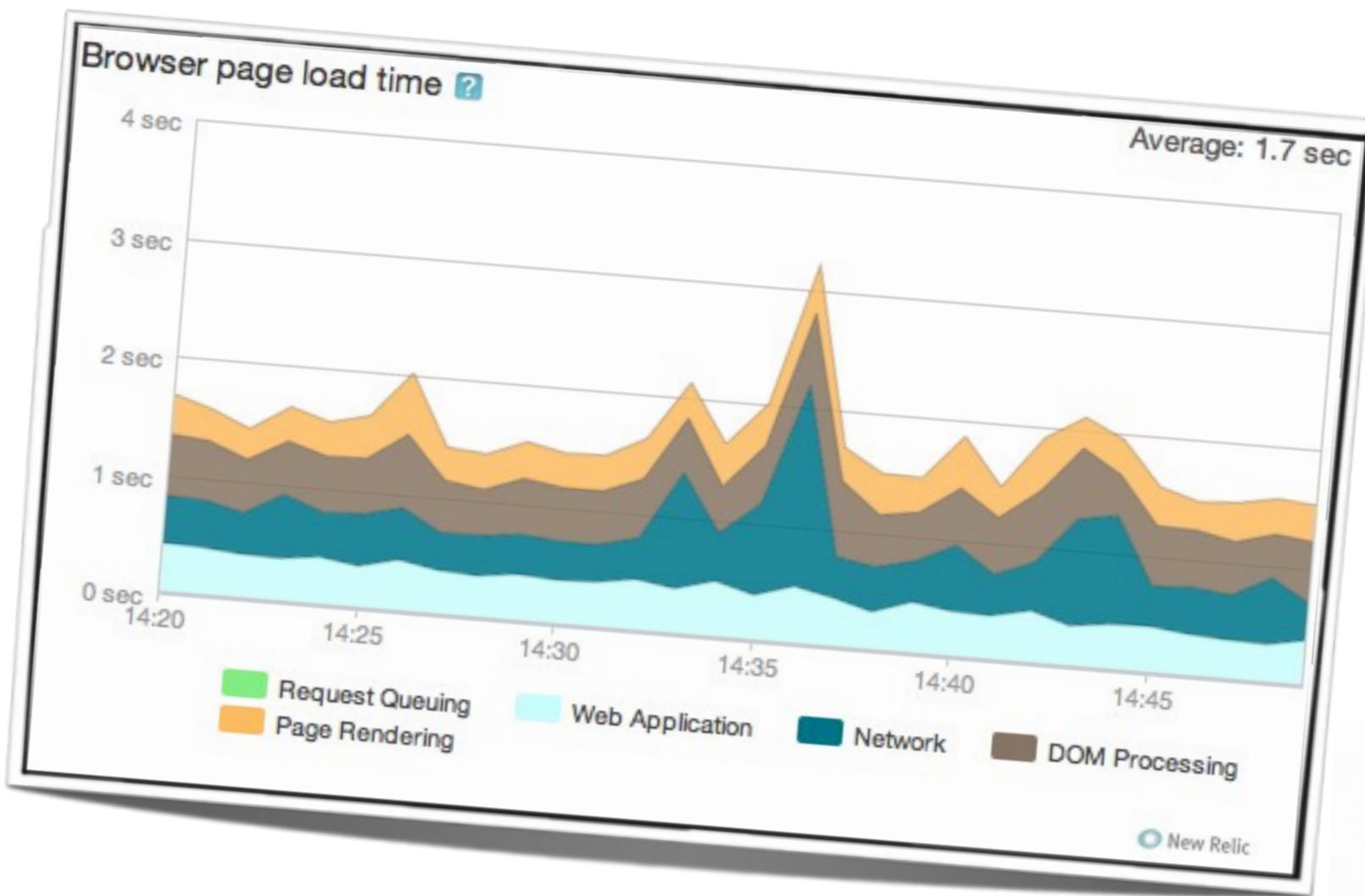
trackery

**data-driven
development**

Hakuna Big Data







Real User Monitoring





A heatmap overlay is applied to the Guardian Unlimited homepage, showing areas of high user engagement. The heatmap uses a color gradient from green (low engagement) to red (high engagement). It highlights the main news articles, the navigation bar, and the sidebar sections.

Sign in | Register | Text larger | smaller

Go to: [Guardian Unlimited home](#)

Guardian Unlimited

October 5 2007 | Last updated less than one minute ago

Search:

Guardian Unlimited Web

Home | UK | World | Books | Business | Comment is free | Dating | Education | Environment | Film | Football | Jobs | Life & Style | Society | Sport | Technology | Talk | Travel | UK news | World news

Brown's statement on pre-budget
Brown's statement on pre-budget
Sources back
Brown pause
style - and substance
White
version

Dollars will hit growth
economic growth has
financial turmoil.

Pakistan: Bhutto deal
Appointing a new deal between Musharraf
and the military to end presidential vote.
An election and the ballot box

US to meet Burma's leaders
Most senior US diplomat in Burma due to deliver robust message over crackdown on protesters.

More news

UN: Climate change disaster is upon us
Nepal election postponed after deadlock
Kidnapped British oil worker freed in Nigeria
North Korea insists it is off US blacklist
Marines could avoid murder charges

Cover 'Crowngate'
Cham quits as reporter
of Five
Queen Slim
online

Liberals arrest
Spain's arrest entire alleged leadership of
banned party Batasuna

Bill Clinton reveals world mission
If his wife wins the US presidency, Bill Clinton will be asked to repair America's damaged international reputation, the former president tells the Guardian.
 Read the full interview
 Hear highlights of the interview

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 South Korean leader watches mass games
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On this site

Audio reports
Cartoons
Comment, leaders, letters and corrections
Crosswords
Email services
G2 features
In pictures
Interactive guides
News quiz
Notes and Queries
Obituaries

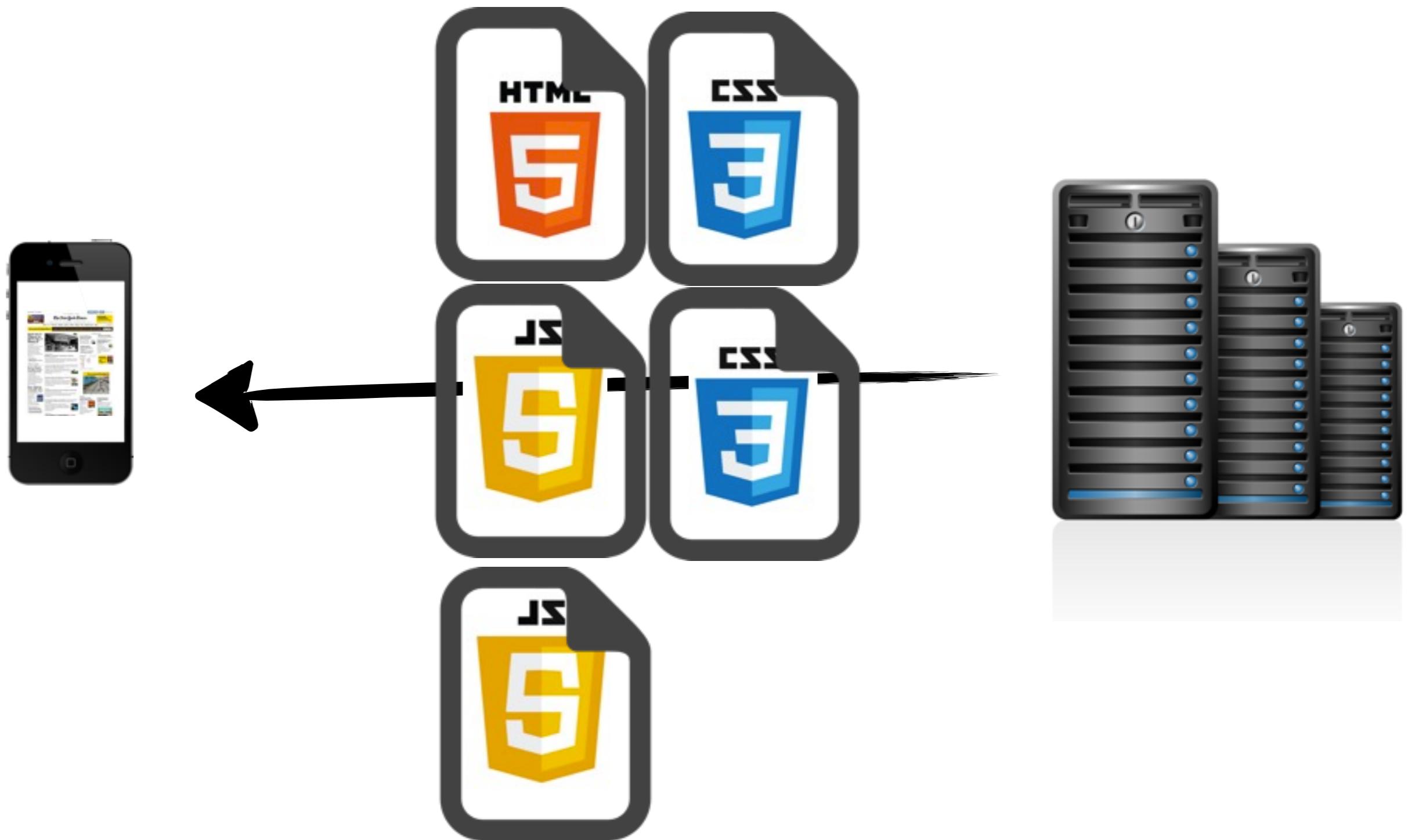
Music review
Sweet enough

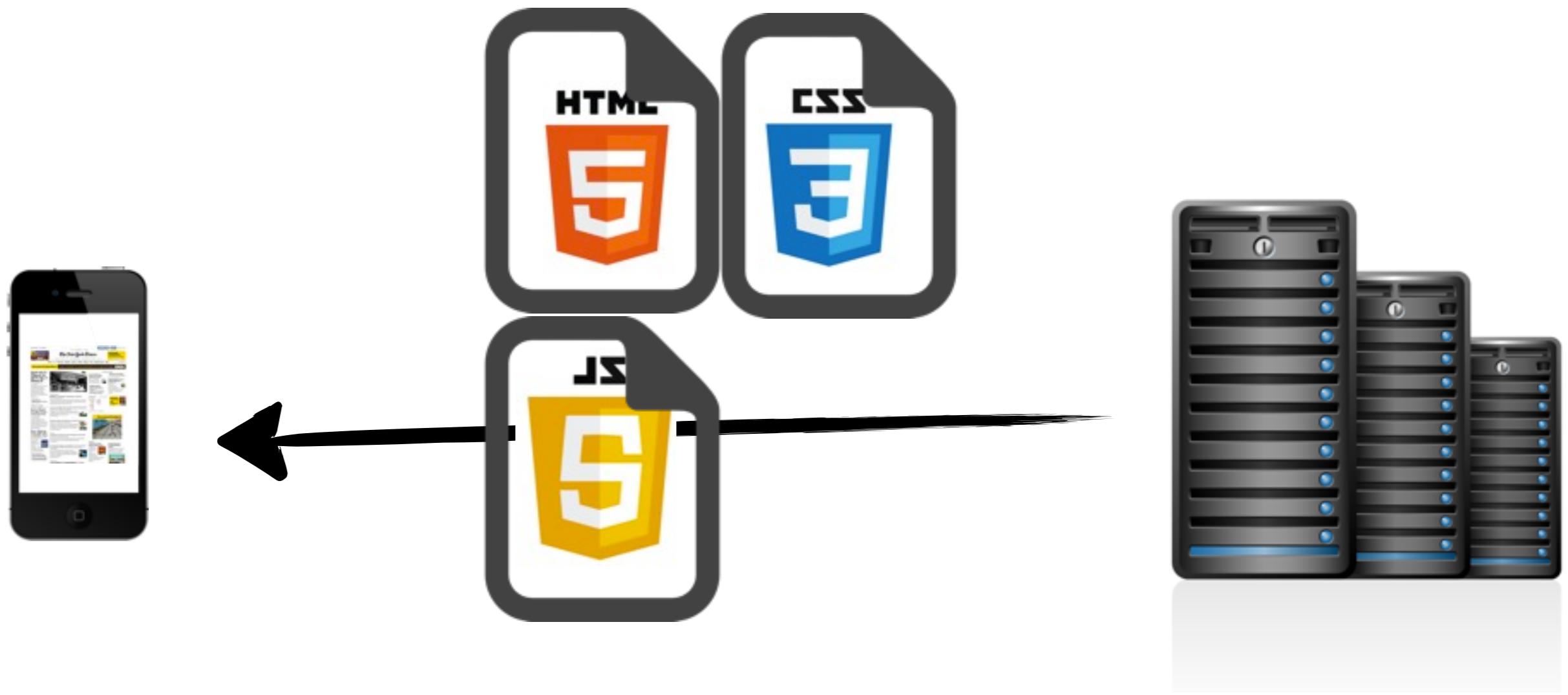
Uwaga

Testowanie w świecie rzeczywistym



Web Performance Optimization









```
<head>
  <link rel="stylesheet" href="/stylesheets/normalize.css" />
  <link rel="stylesheet" href="/stylesheets/menu.css" />
  <link rel="stylesheet" href="/stylesheets/articles.css" />
  <link rel="stylesheet" href="/stylesheets/footer.css" />

  <script src="/js/lib/blazy.js"></script>
  <script src="/js/lib/fastclick.js"></script>
  <script src="/js/lib/tracking.js"></script>
  <script src="/js/main.js"></script>
</head>
```

```
<head>
  <link rel="stylesheet" href="/stylesheets/normalize.css" />
  <link rel="stylesheet" href="/stylesheets/menu.css" />
  <link rel="stylesheet" href="/stylesheets/articles.css" />
  <link rel="stylesheet" href="/stylesheets/footer.css" />

  <script src="/js/lib/blazy.js"></script>
  <script src="/js/lib/fastclick.js"></script>
  <script src="/js/lib/tracking.js"></script>
  <script src="/js/main.js"></script>
</head>
```



```
<head>
  <link rel="stylesheet" href="/dist/main-build-77.min.css" />

  <script src="/dist/main-build-77.min.js"></script>
</head>
```

```
<head>
  <script src="/dist/main-build-77.min.js"></script>
</head>
<body>
  ...
</body>
```



Jake Archibald

@jaffathecake



Follow

"We don't have any non-JavaScript users" No, all your users are non-JS while they're downloading your JS

[Reply](#) [Retweet](#) [Favorited](#) [More](#)

RETWEETS
273

FAVORITES
141



3:09 PM - 28 May 2012

```
<head>
  <script src="/dist/main-build-77.min.js"></script>
</head>
<body>
  ...
</body>
```



```
<head>
  ...
</head>
<body>
  ...
  <script src="/dist/main-build-77.min.js"></script>
</body>
```

Caching

Serwer



Serwer

Varnish



Serwer

Varnish

ISP

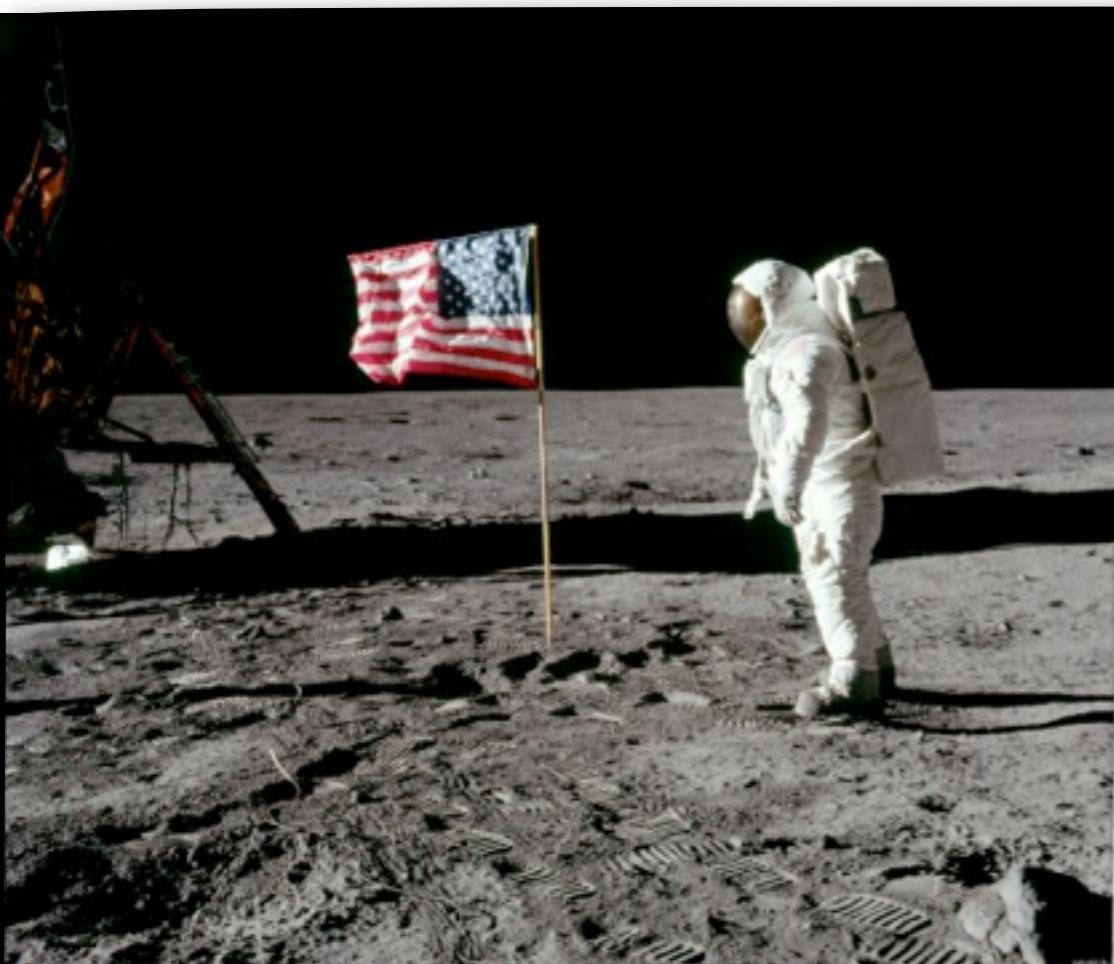


Cache-Control: public, max-age=3600

HTTP 1.1

Expires: Sat, 10 Jun 2014 20:30:00 GMT

HTTP 1.0



 Bill Murray
@BillMurray

My iPhone has 2 million times the storage of the 1969 Apollo 11 spacecraft computer. They went to the moon. I throw birds at pig houses.

Reply Retweet Favorite More

RETWEETS 4,656 FAVORITES 1,079

6:16 PM - 5 Apr 2013



gzip



Name	Path	Me...	Status Text	Type	I...	Size Content	Time Latenc
 ?components=header,articles/...		GET	200 OK	text/html	...	6.5 KB 36.1 KB	100 ... 89 ms
 main.min.css?lastModified=13...	/dist	GET	200 OK	text/css	...	5.2 KB 17.9 KB	72 ms 63 ms
 dataloader.gif	www.aftenposten.no/skins/globa	GET	200 OK	image/gif	...	1.1 KB 723 B	79 ms 78 ms
 krimbombo2-7sPZ1rbv6B.jpg	www.aftenposten.no/incoming/a	GET	200 OK	image/jpeg	...	21.6 KB 21.3 KB	404 ... 93 ms
 afp000686287-Cw1udZvi93.jpg	www.aftenposten.no/incoming/a	GET	200 OK	image/jpeg	...	14.3 KB 14.0 KB	238 ... 101 m:
 kartletingss-RgFu9Cyl22.jpg	www.aftenposten.no/incoming/a	GET	200 OK	image/jpeg	...	13.8 KB 13.5 KB	452 ... 102 m:
 main.min.js?lastModified=139...	/dist	GET	200 OK	application/javascript	...	38.5 KB 113 KB	244 ... 94 ms

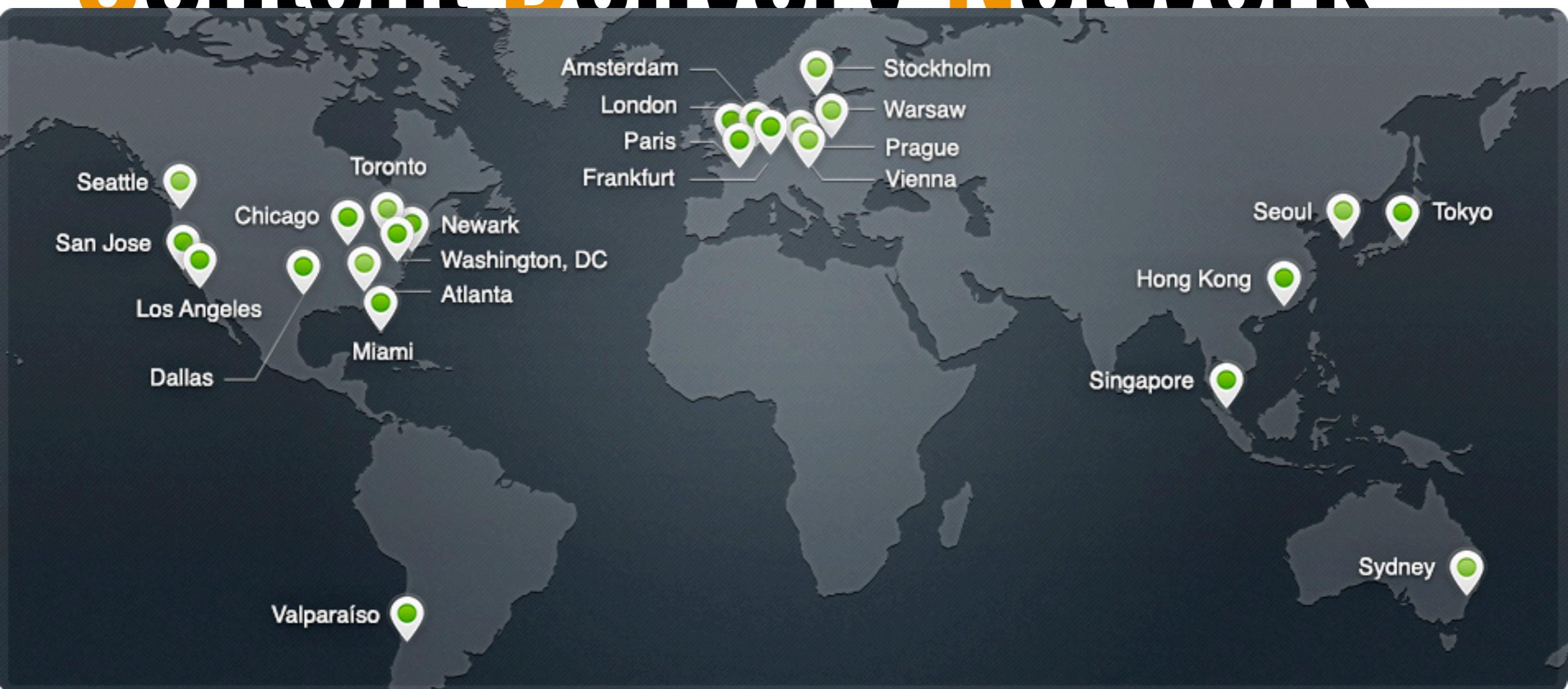
Przepustowość **czy** opóźnienie





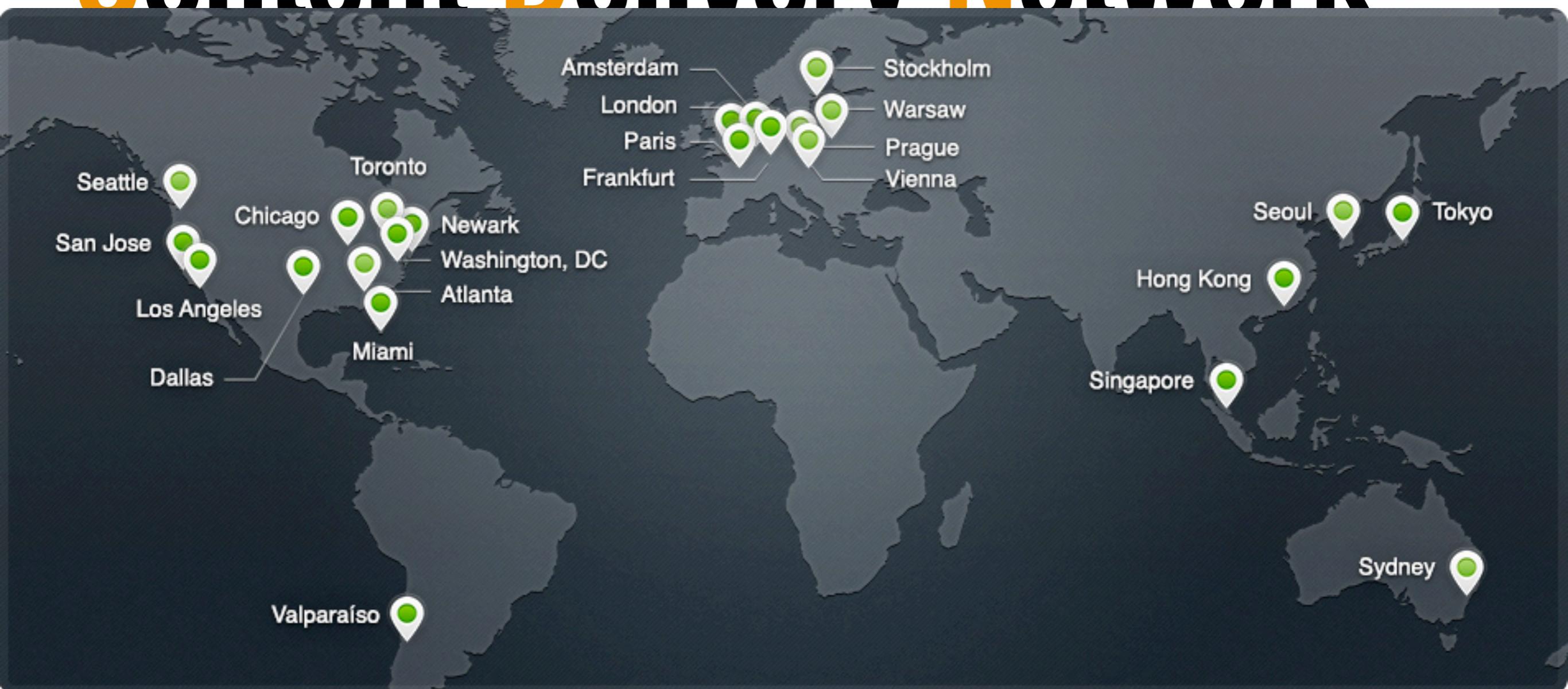
opóźnienie

Content Delivery Network





Content Delivery Network



**Chrome Dev Tools
jest Waszym przyjacielem**

Elements Network Sources Timeline Profiles Resources Audits Console Edit This Cookie PageSpeed

Audits

RESULTS

-  http://fastenposten.h...
-  http://fastenposten.h...

Select audits to run

Select All

Network Utilization

Web Page Performance

Audit Present State

Reload Page and Audit on Load

Run Clear

Elements Network Sources Timeline Profiles Resources | Audits | Console Edit This Cookie PageSpeed

Audits

RESULTS

 http://fastenposten.h...
 http://fastenposten.h...

▼ Network Utilization

- 🔴 ► Combine external JavaScript (4)
- 🔴 ► Enable gzip compression (5)
- 🔴 ► Leverage browser caching (36)
- 🟡 ► Leverage proxy caching (18)
- 🟡 ► Minimize cookie size (2)
- 🟡 ► Serve static content from a cookieless domain (27)

▼ Web Page Performance

- 🟡 ► Remove unused CSS rules (62)

Integrated Development Environment

Konsola JS

HTTP sniffer

Edytor HTML/CSS

Debugger JS

Profiler

narzędzie do WPO

Klient baz danych

Emulator urządzeń mobilnych

Backend

Backend

Jak my wybieramy technologie?

Kryterium #1

Nie ukrywa HTTP

200
201

301
303

400
404

500
503

Cache-Control

ETag

Content-Type

GET POST PUT DELETE

200
201

301
303

400
404

500
503

Cache-Control

ETag

Content-Type

GET

POST

PUT

DELETE

Kryterium #2
Pozwala
zaimplementować
MVC

Kryterium #3

Startuje w <100ms

Kryterium #4

Jest testowalna

Kryterium #5

**Jest łatwo
rozszerszalna
(injection points)**

Kryterium #6

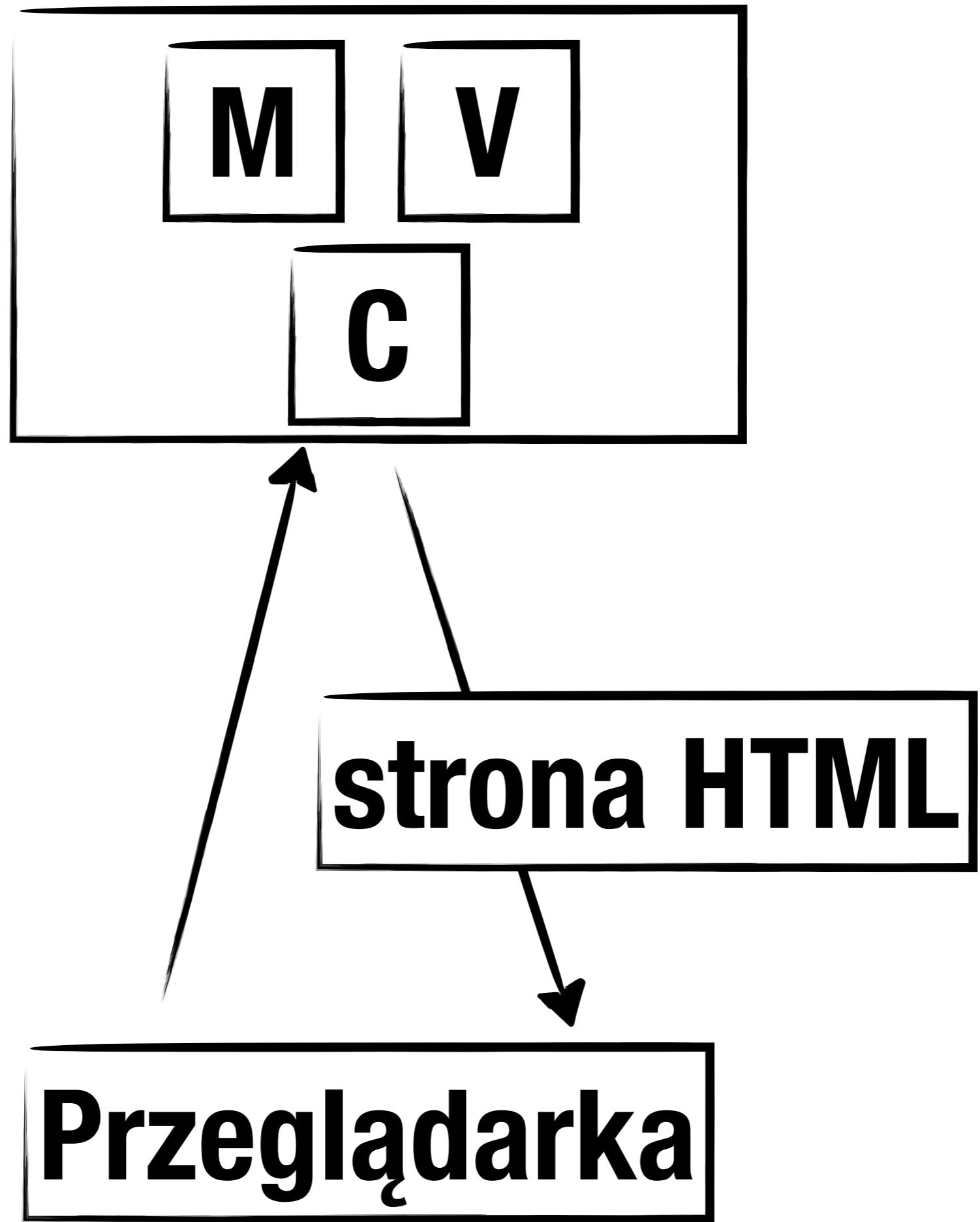
**Konfigurowalna w
kodzie,
nie w XML'u**

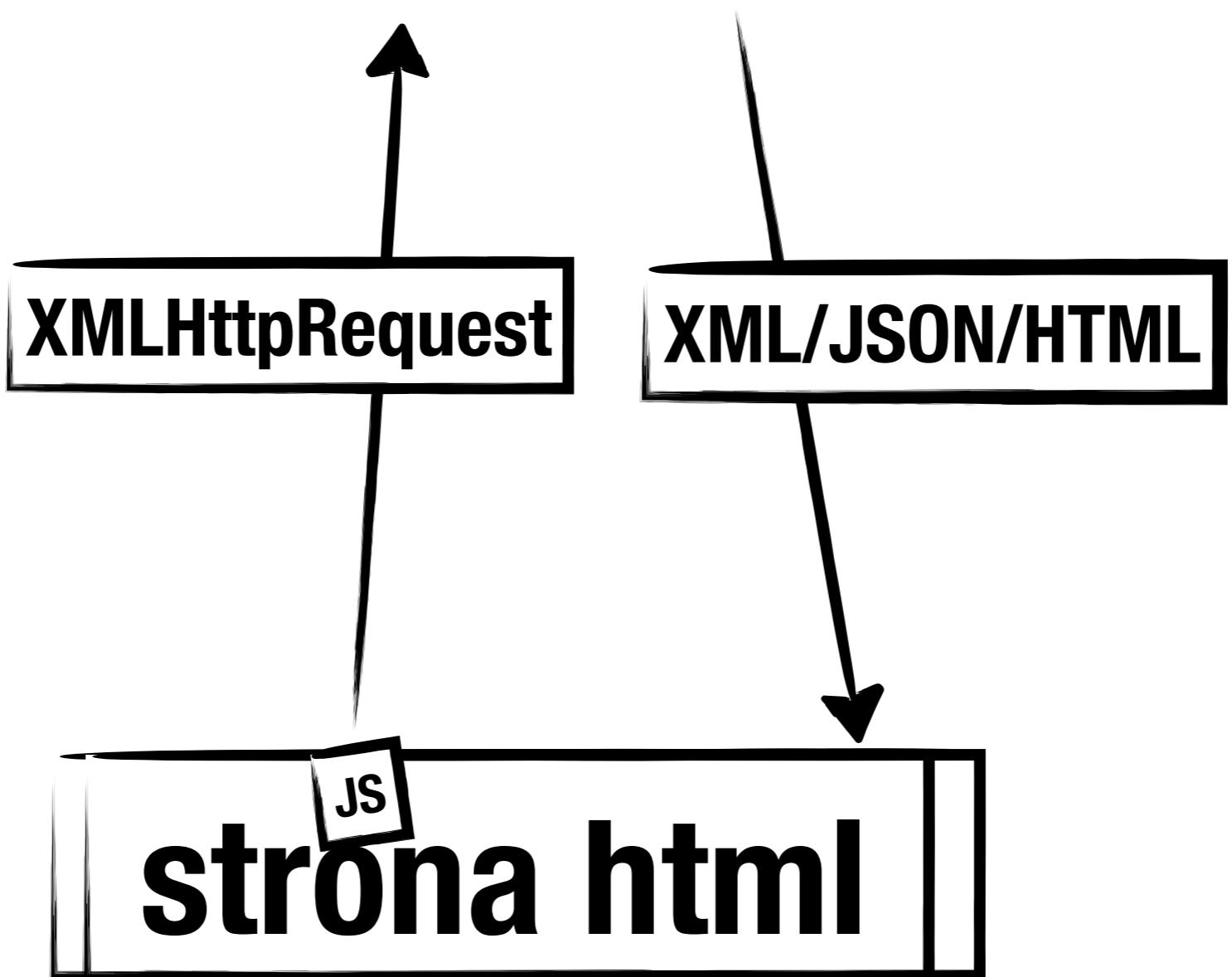
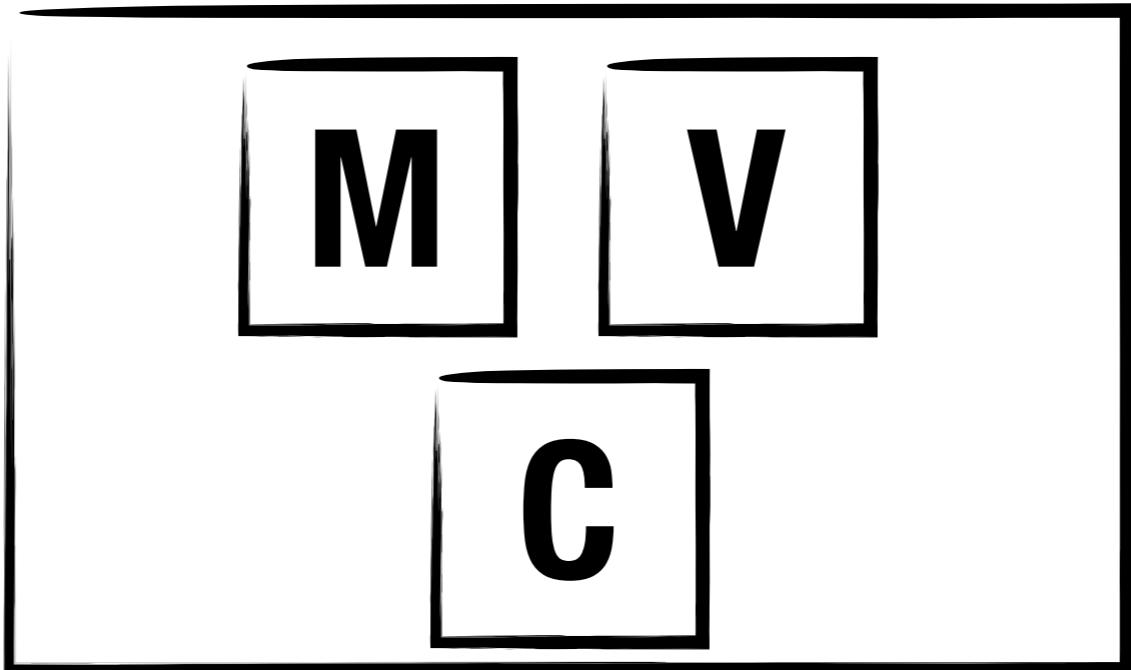
Kryterium #7
Wybacza złe decyzje :)



Kryterium #7

Wybacza złe decyzje :)

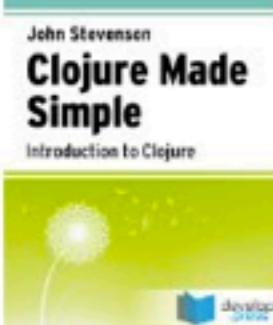




Search suggestions

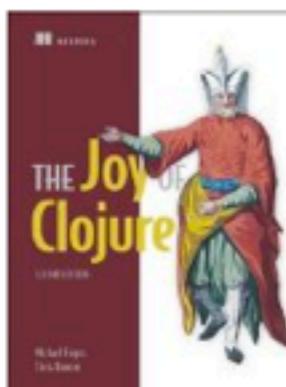
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(3)

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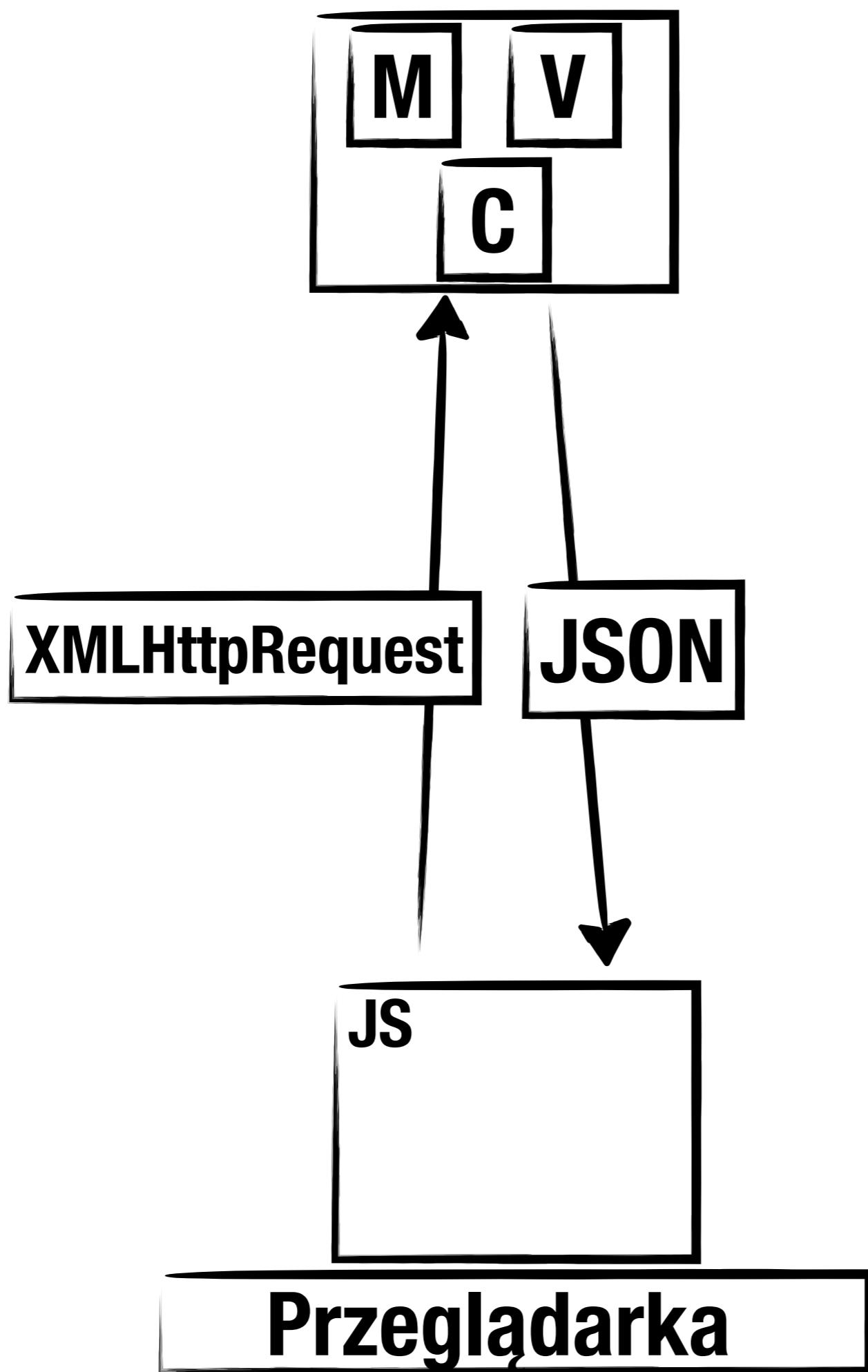
£13.42 new (47 offers)

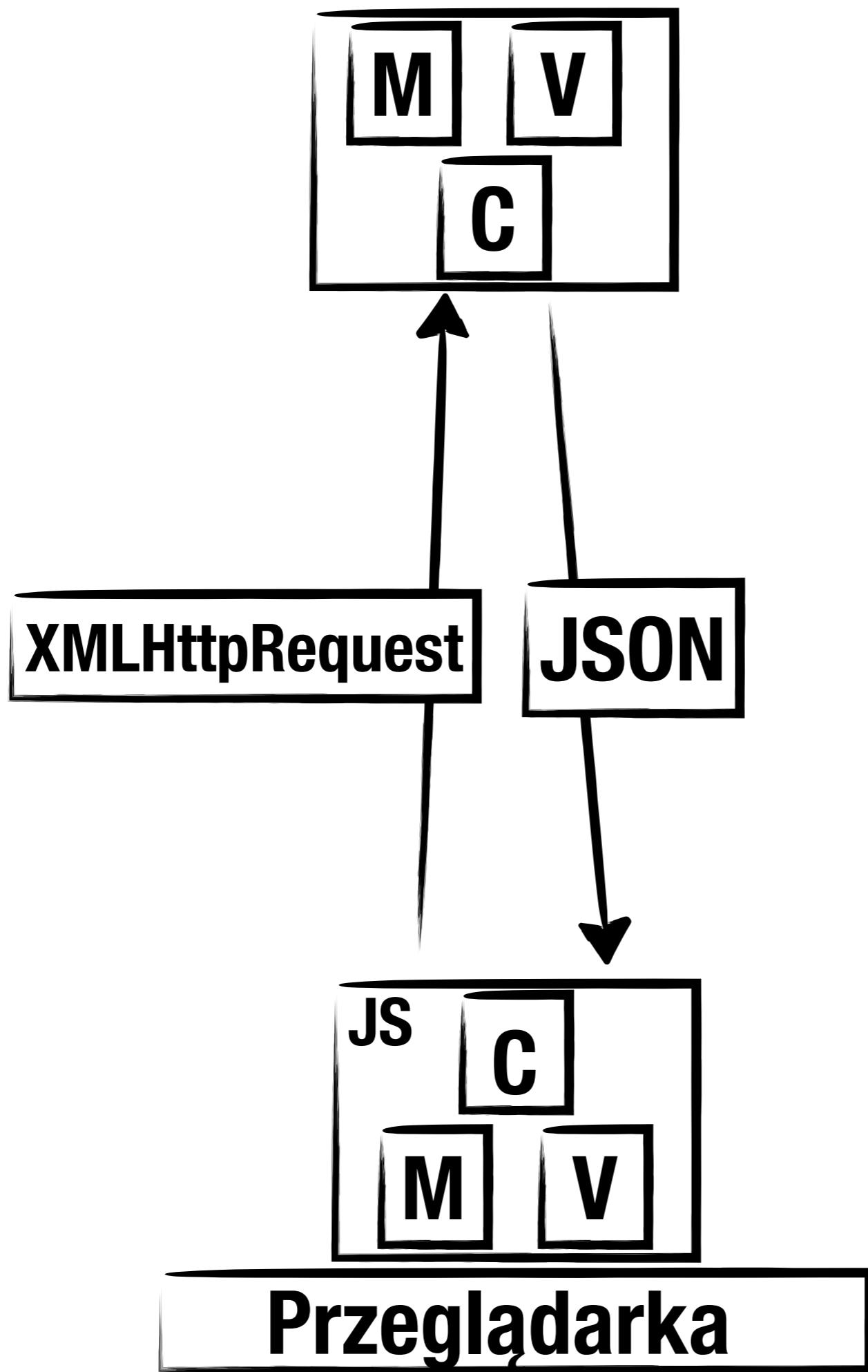
(1)

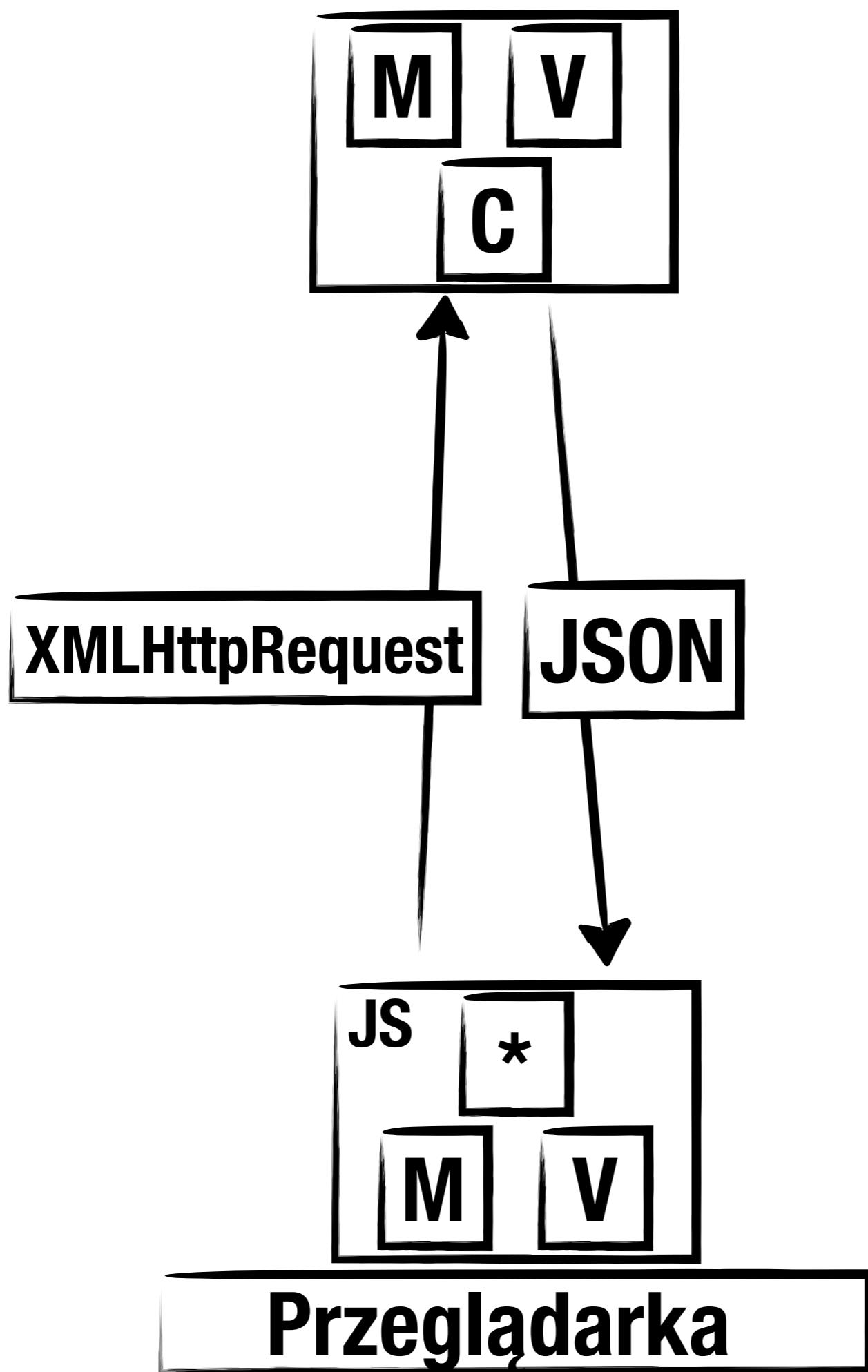
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Single Page Apps



Helping you **select** an MV* framework

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Introduction

Developers these days are spoiled with choice when it comes to **selecting** an **MV* framework** for structuring and organizing their JavaScript web apps.

Backbone, Ember, AngularJS... the list of new and stable solutions continues to grow, but just how do you decide on which to use in a sea of so many options?

To help solve this problem, we created **TodoMVC** - a project which offers the same Todo application implemented using MV* concepts in most of the popular JavaScript MV* frameworks of today.

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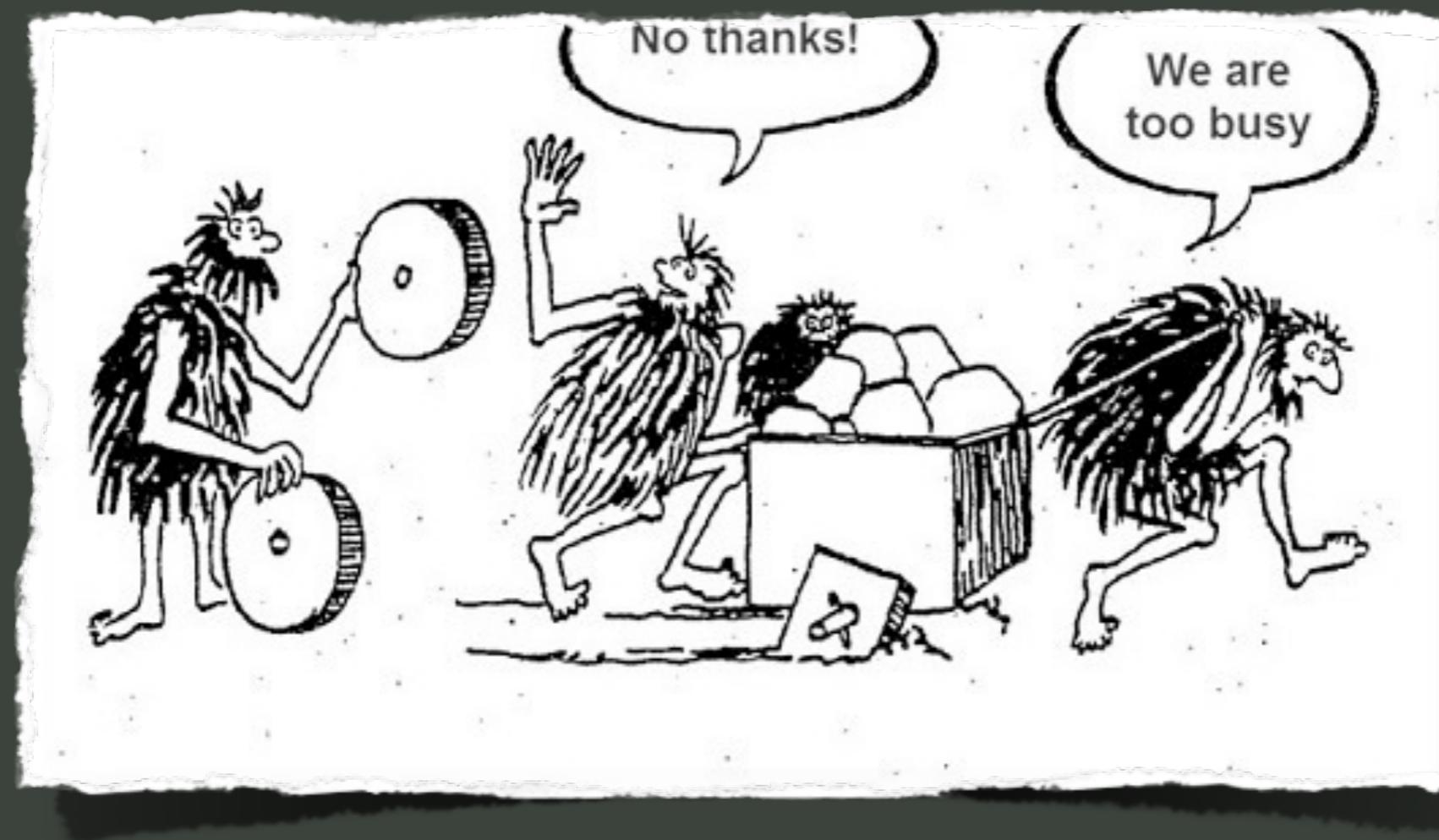


3:11 AM - 17 Apr 2013

Od Enterprise do Web

**LESS
IS
MORE.**

Własna ścieżka



No thanks!

We are
too busy

html css js

html

js



CSS

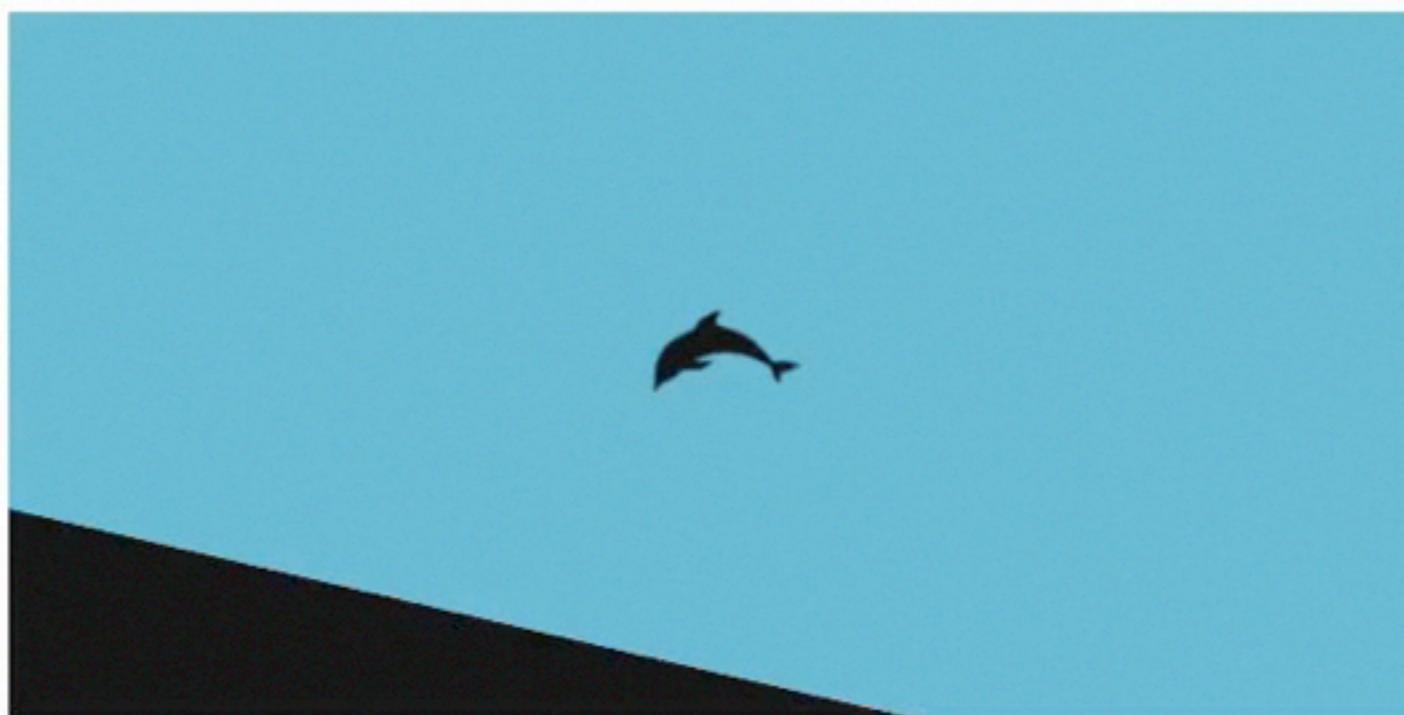
CSS: The Good Parts



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HTML (Ham)

CSS (SCSS)

```
@keyframes up {  
 0% { top: -$width/4+$width/40; }  
 100% { top: $width/4-$width/40; }  
}  
@keyframes down {  
 0% { bottom: $width/4-$width/40; }  
100% { bottom: -$width/4+$width/40; }  
}  
@keyframes rotate {  
 from { transform: rotate(0); }  
 to { transform: rotate(360deg); }  
}  
@keyframes jump {  
 0% { bottom: -$width/20; }  
 50% { bottom: -$width/20; }  
 100% { bottom: $width/4-$width/40; }  
}  
@keyframes fade {  
 0% { opacity: 0; }  
 50% { opacity: 0; }  
 51% { opacity: 1; }  
 100% { opacity: 1; }  
}  
@keyframes spin1 {  
 0% { transform: rotate(0); }  
 75% { transform: rotate(0); }  
 100% { transform: rotate(360deg); }  
}
```

JS



CODEPEN

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A Pen by Peter Westendorp

CodePen PRO is pretty sweet. Just saying.

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HTML

```
<div class="scene">
  <div class="wrapper">
    <ul class="tunnel">
      <li class="ring"></li>
      <li class="ring"></li>
      <li class="ring"></li>
      <li class="ring"></li>
      <li class="ring"></li>
      <li class="ring"></li>
```

CSS (SCSS)

```
@keyframes roundandround {
  to {
    transform: rotateX(360deg);
  }
}

body {
  background-color: #000000;
}
```

JS

```
// "DISCLAIMER"
// 1. This is an experiment to demonstrate the power of CSS
// and modern browsers. This is not how HTML and CSS should be
// used.
// 2. Works best in webkit browsers
```

**Jak zostać programistą aplikacji
webowych w weekend?**

**Jak zostać programistą aplikacji
webowych w kilka lat?**



Retweeted by Andy Hunt

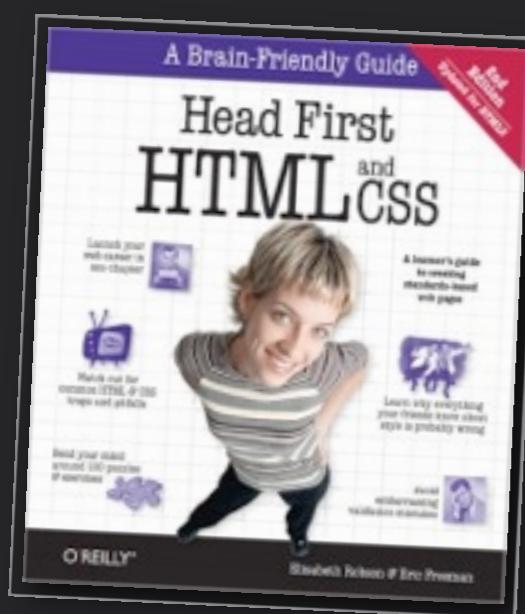


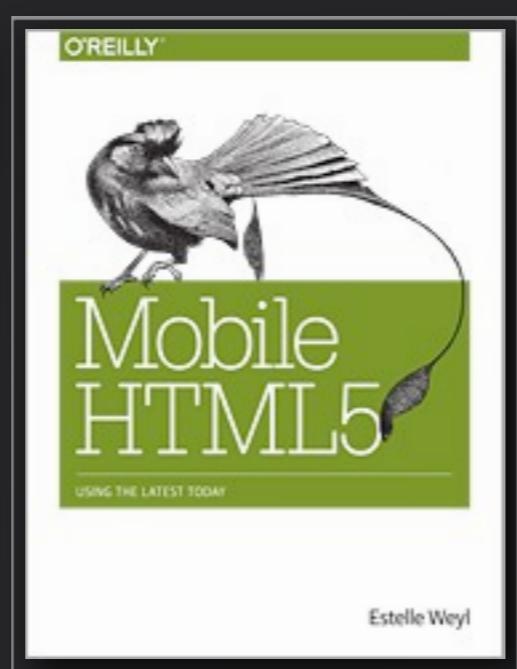
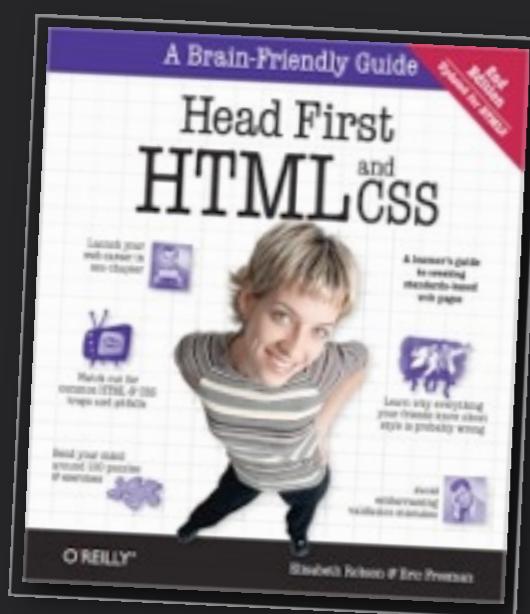
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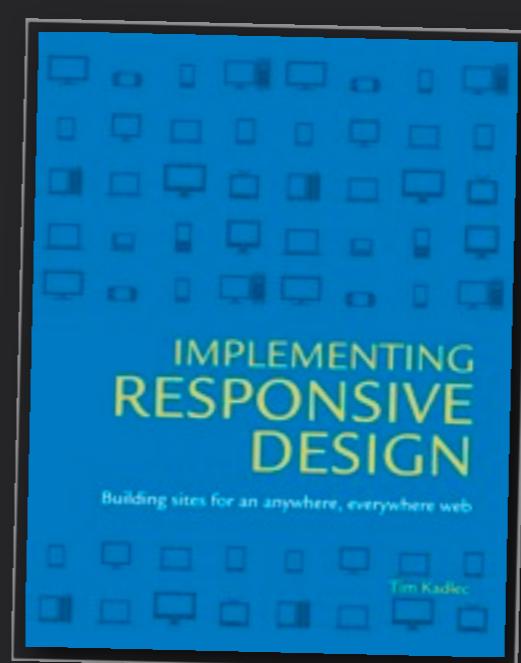
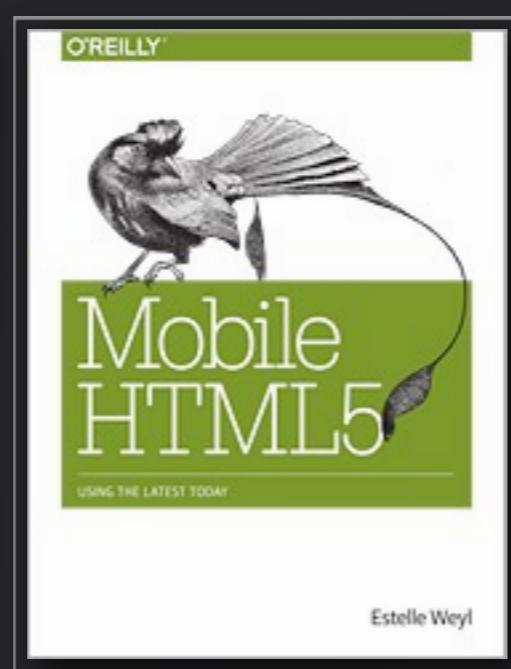
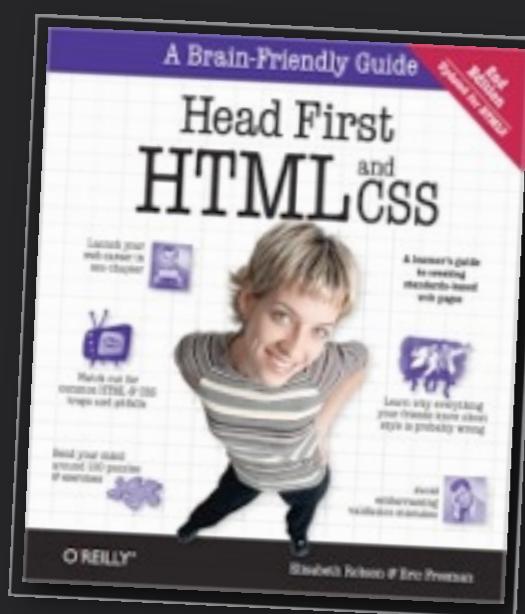
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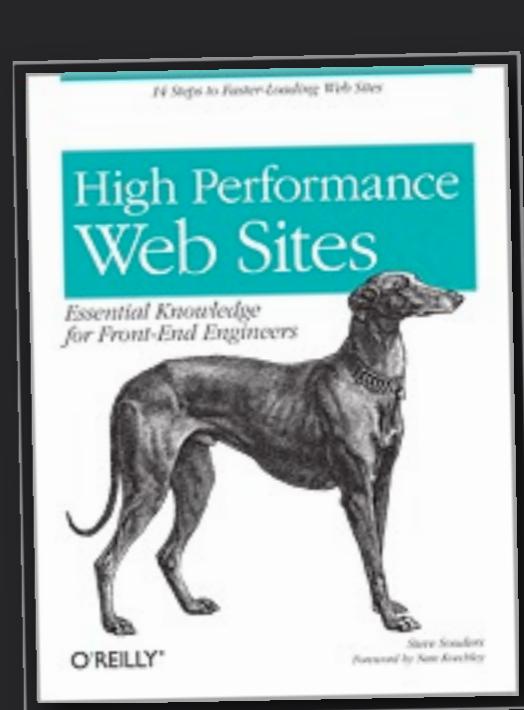
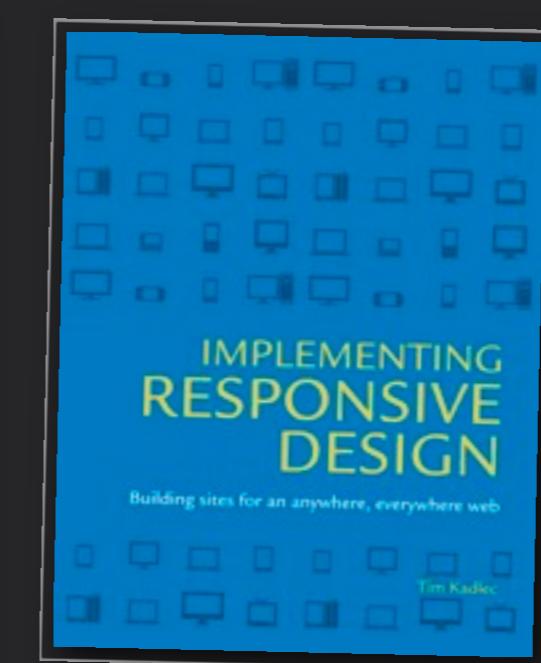
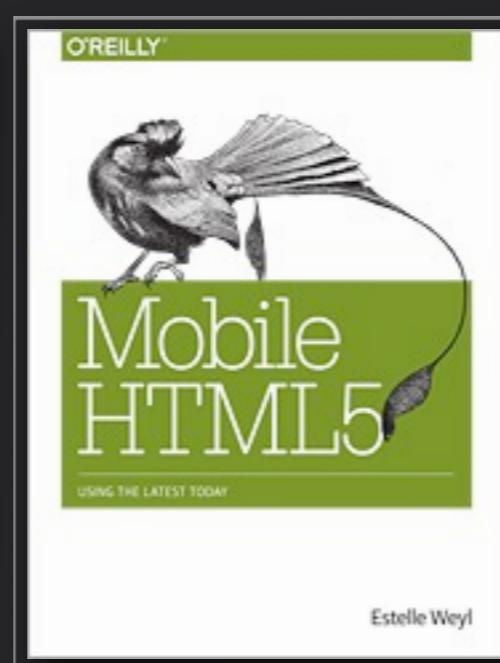
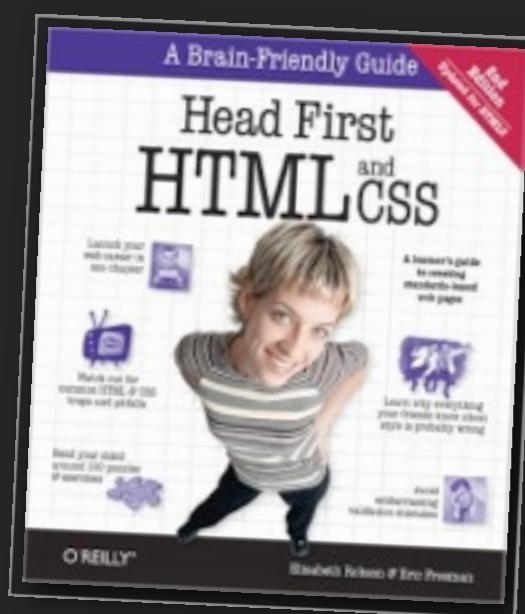
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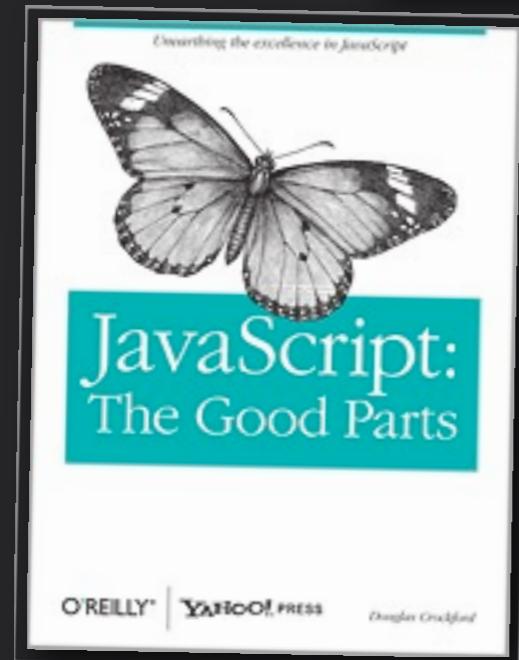
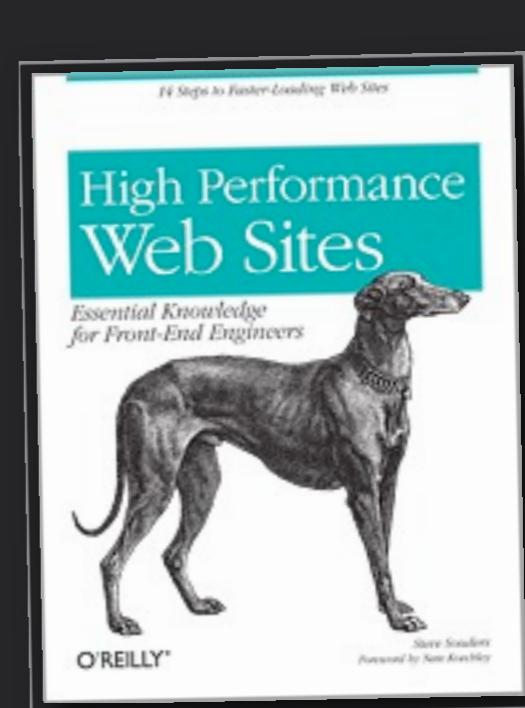
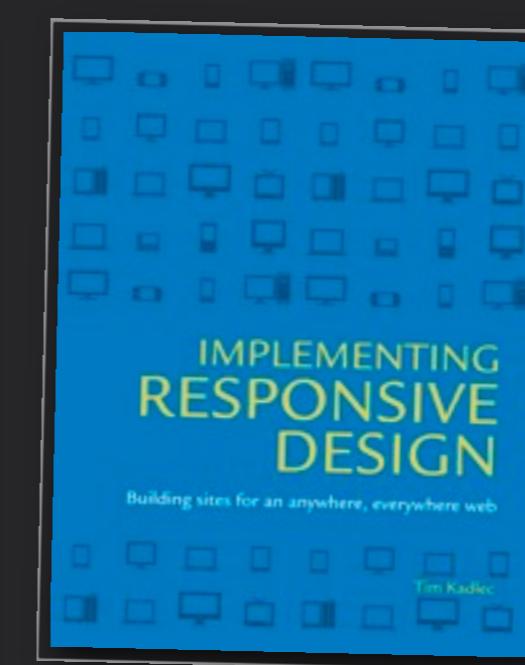
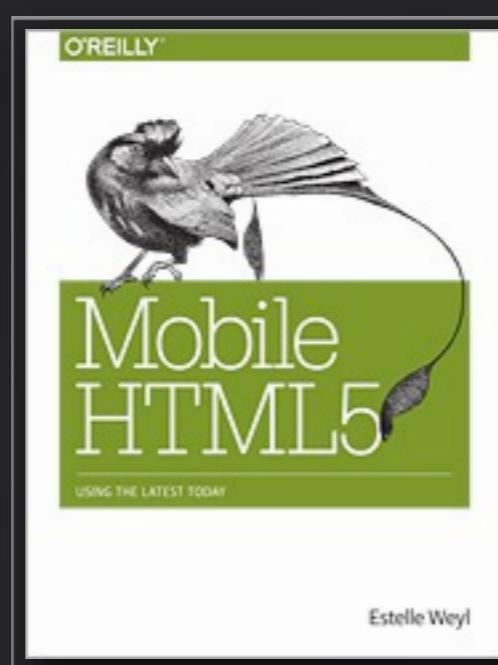
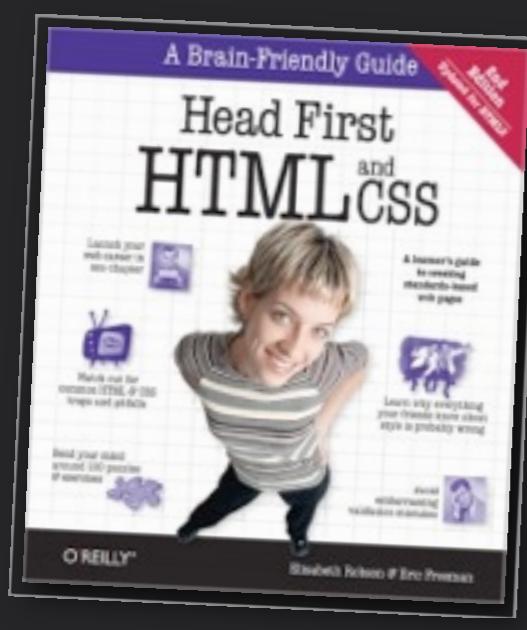


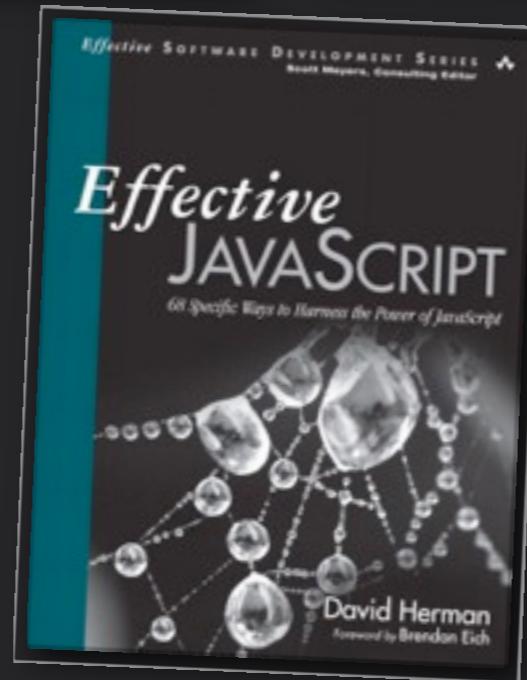
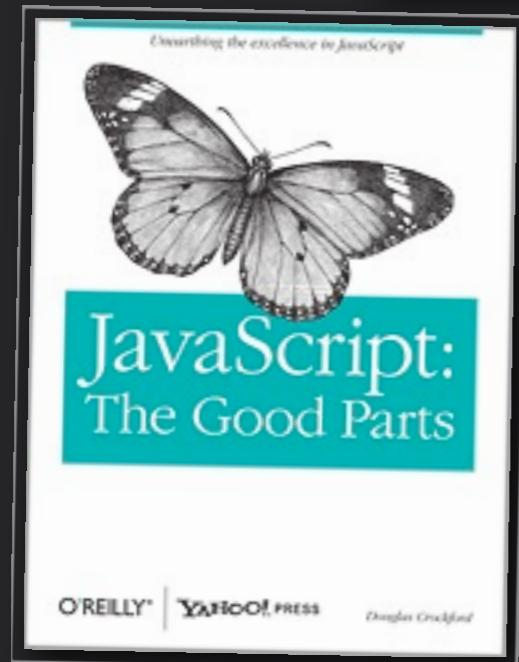
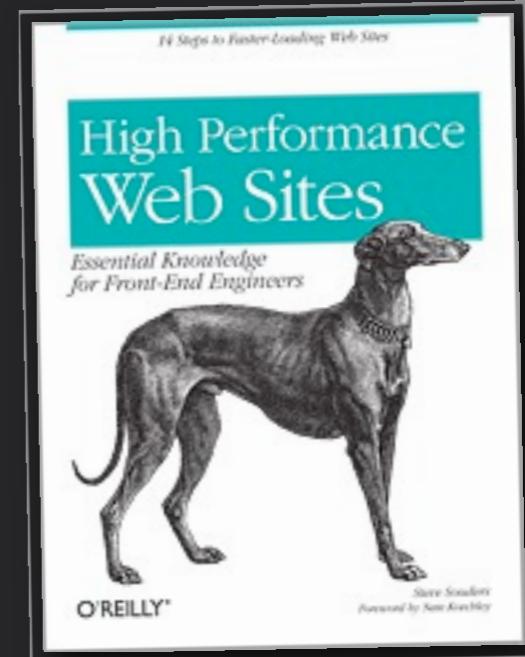
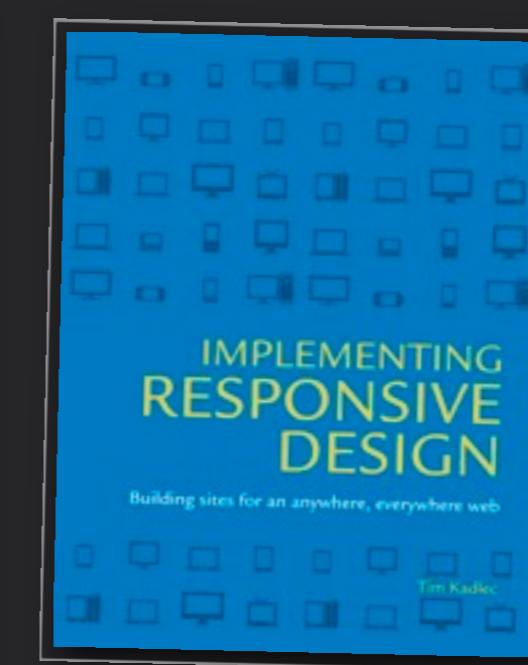
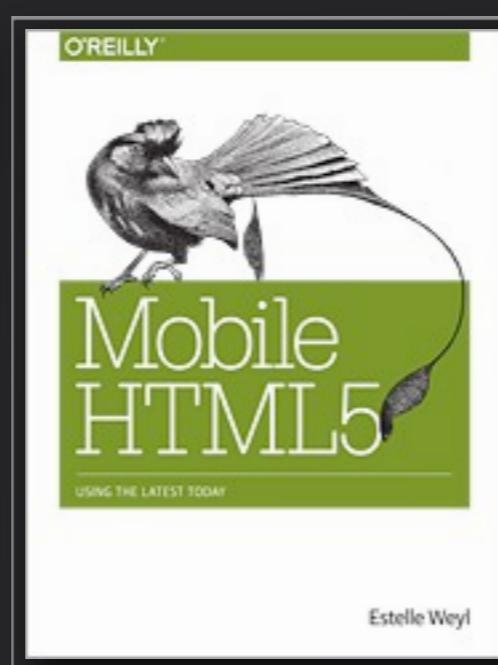
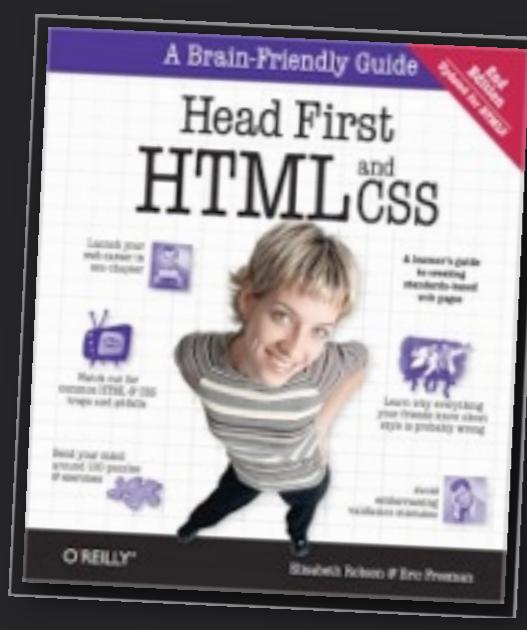


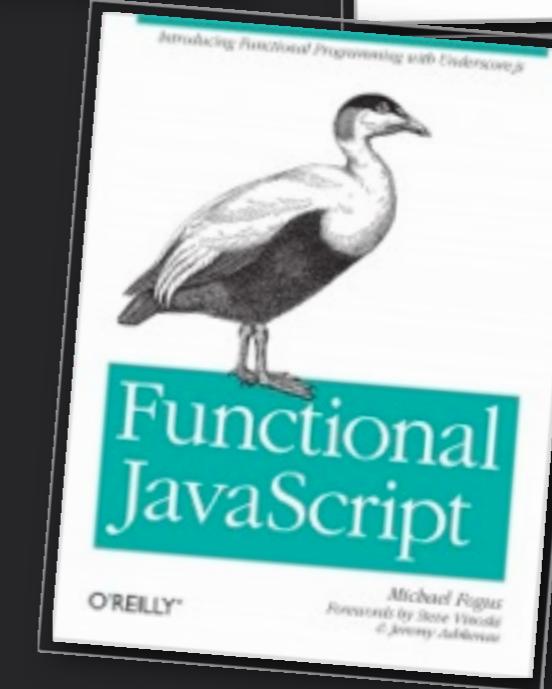
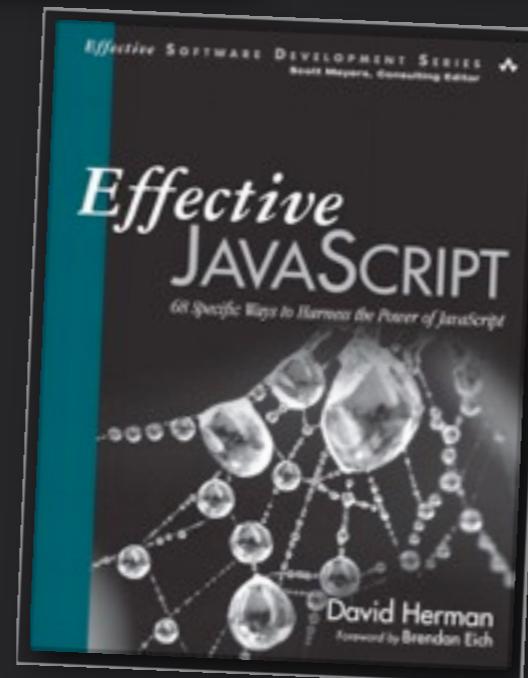
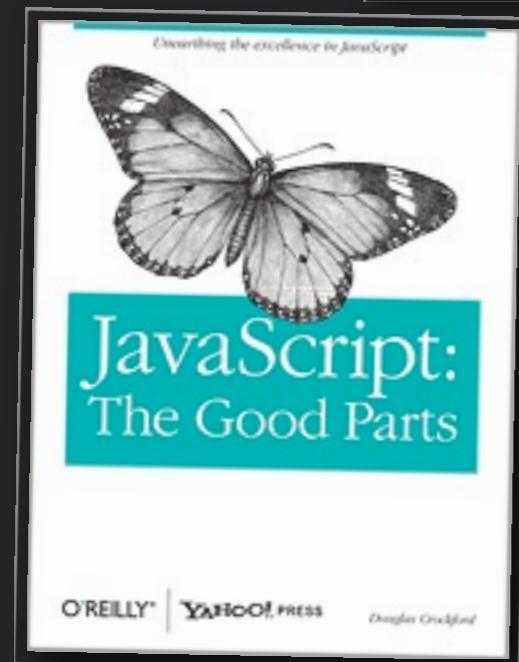
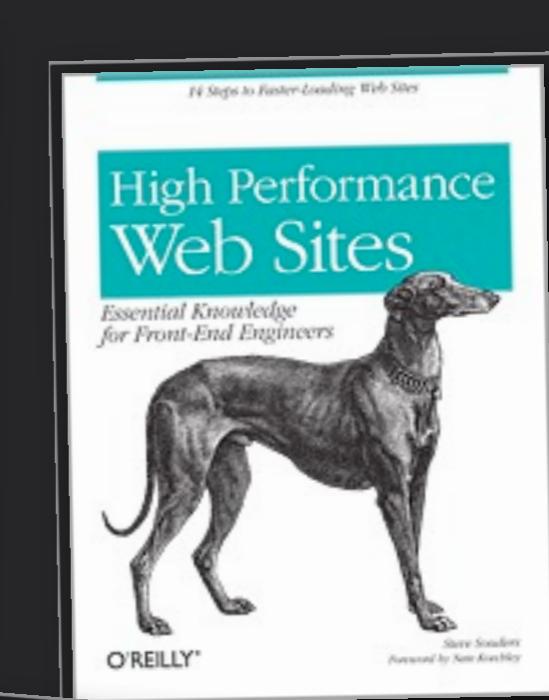
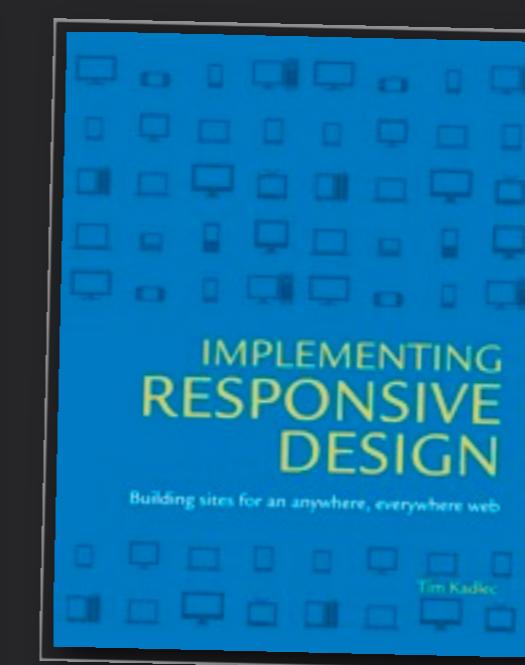
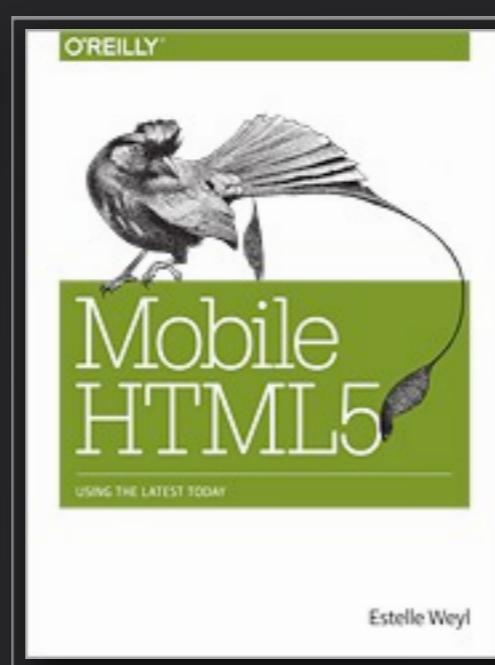
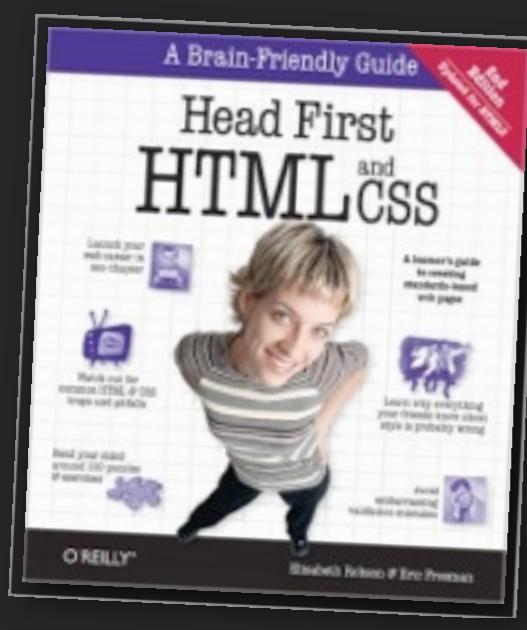
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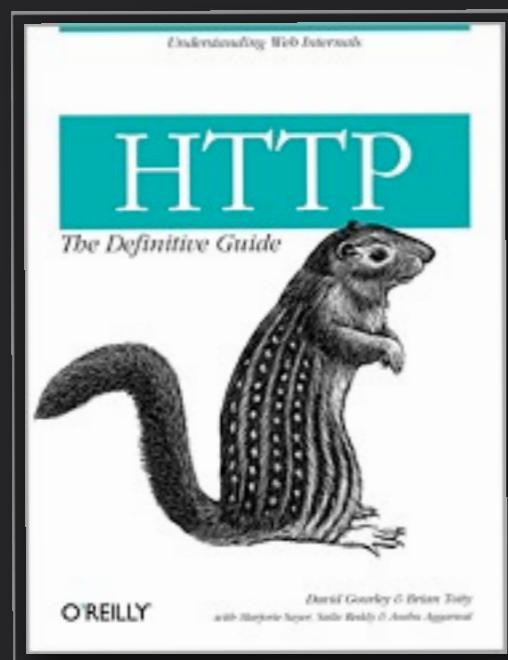
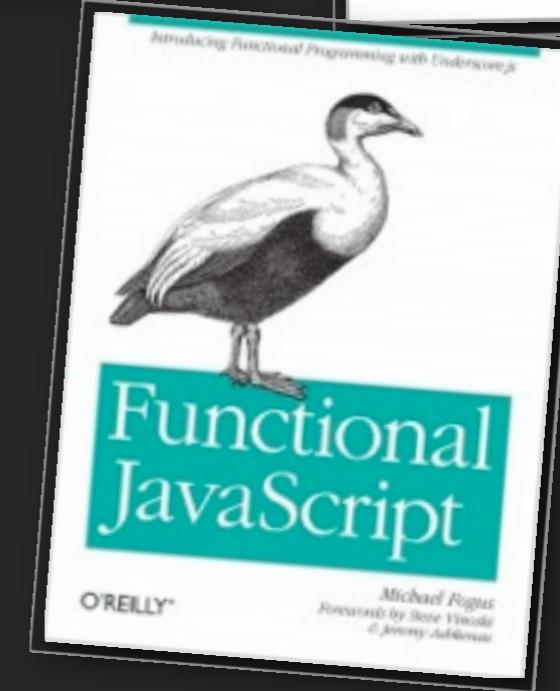
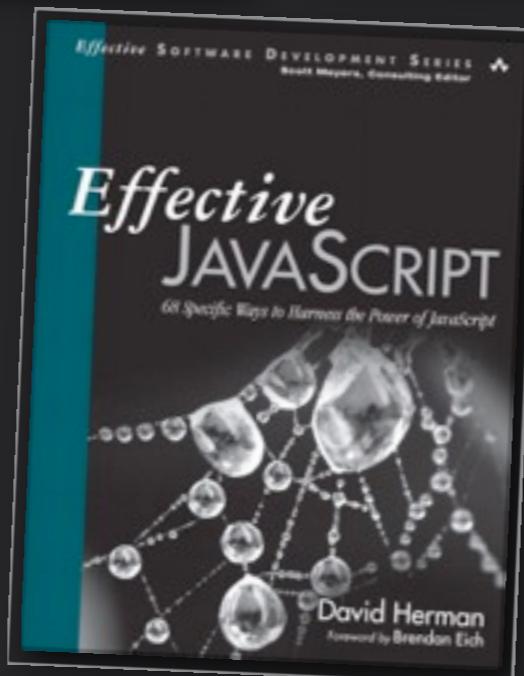
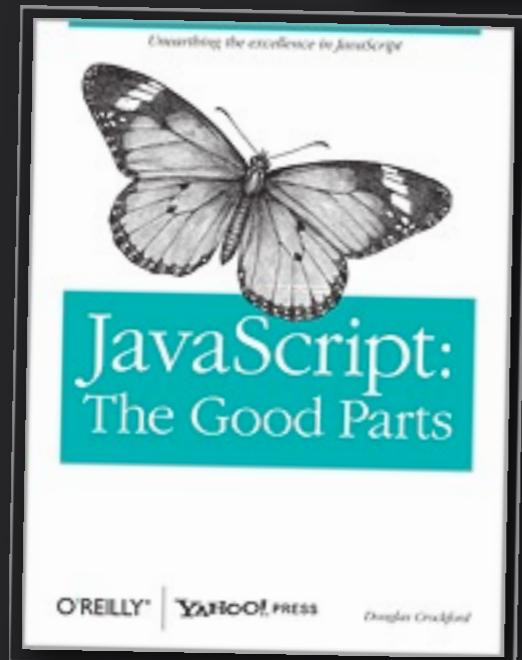
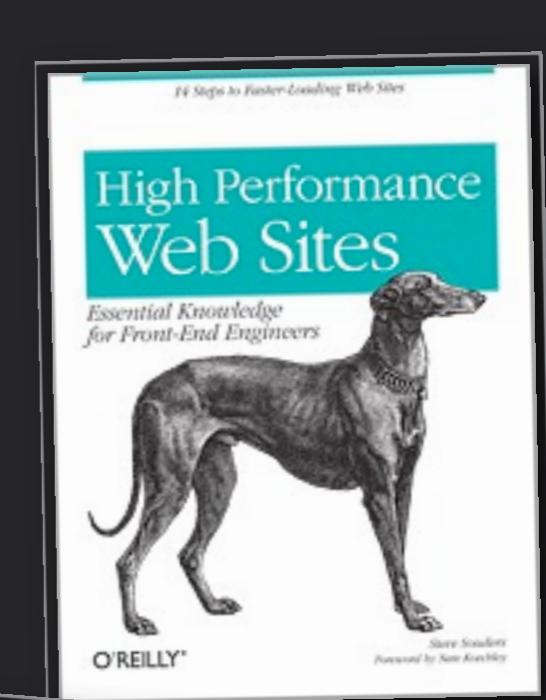
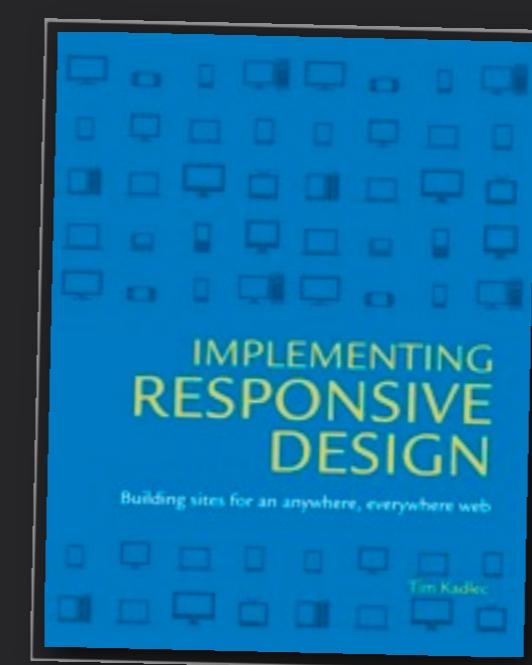
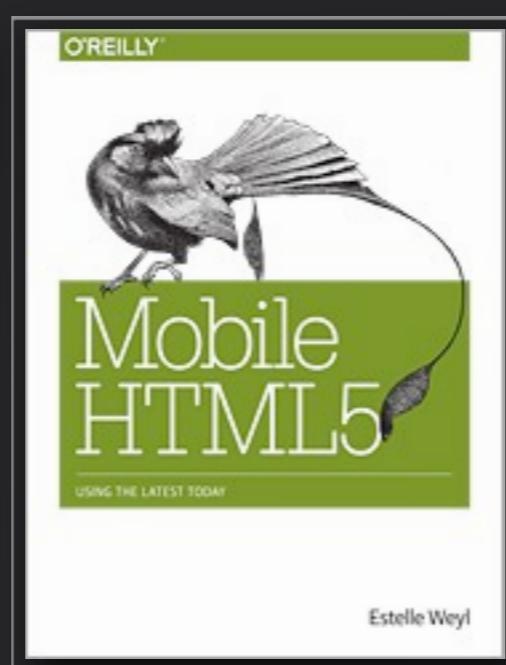
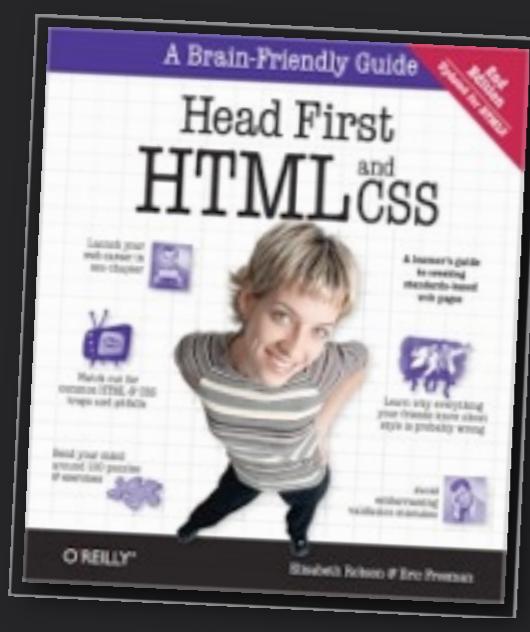


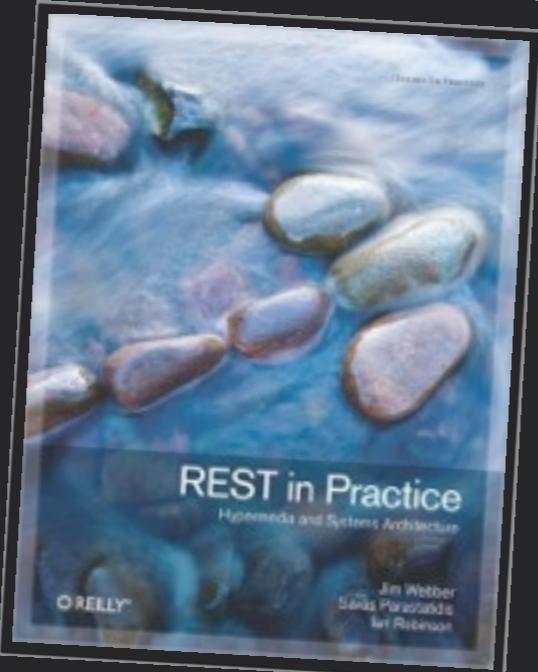
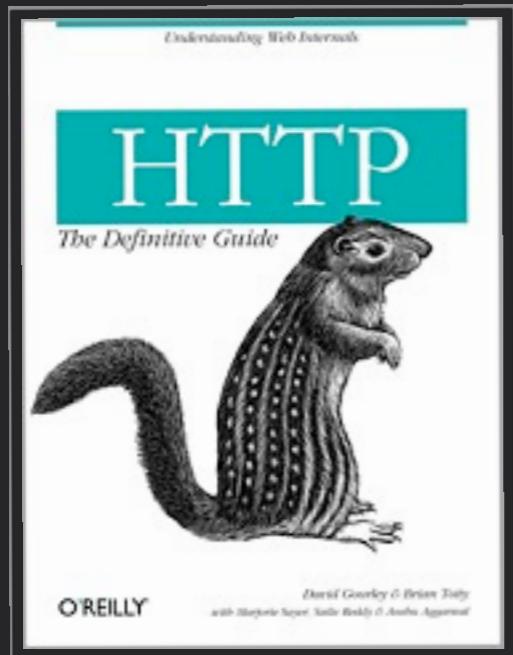
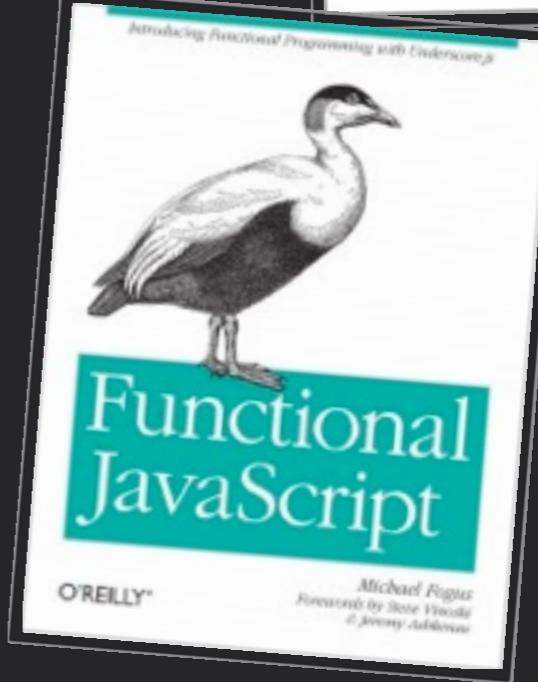
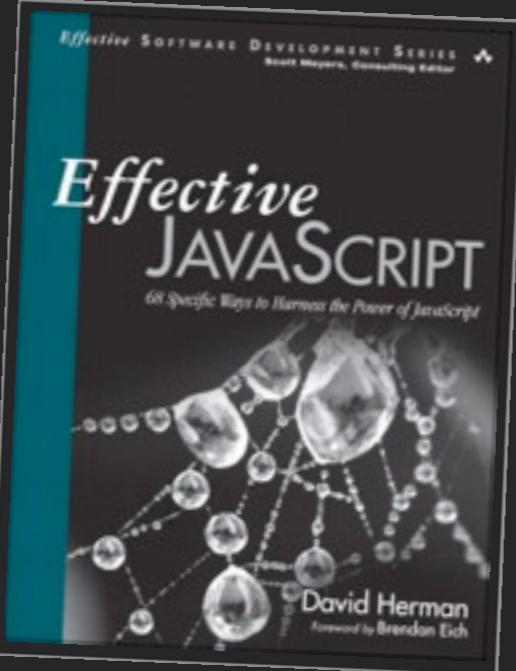
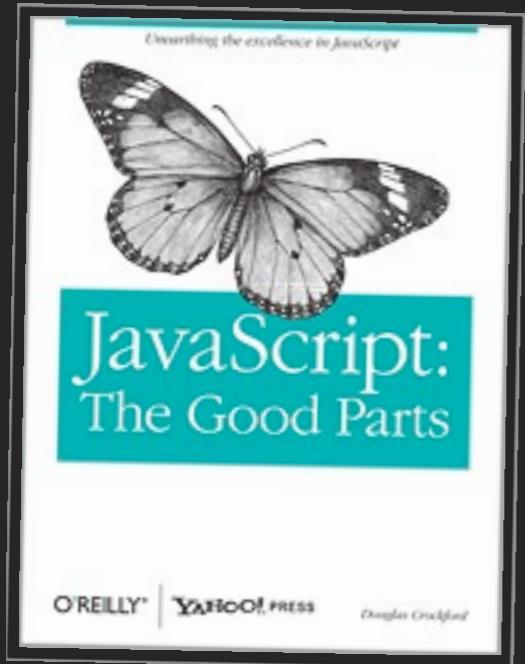
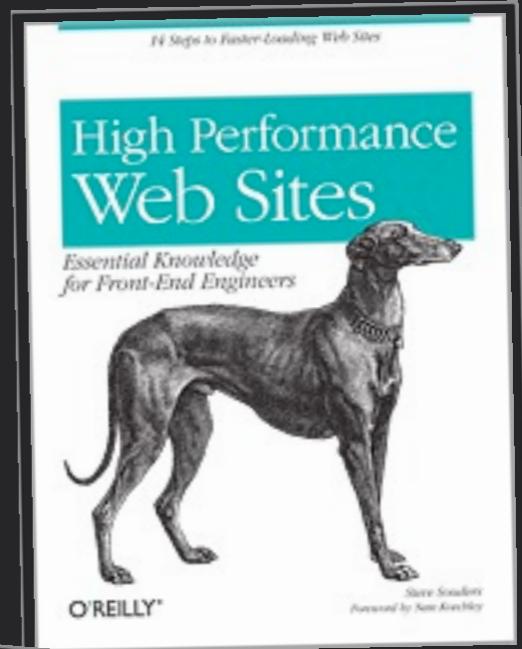
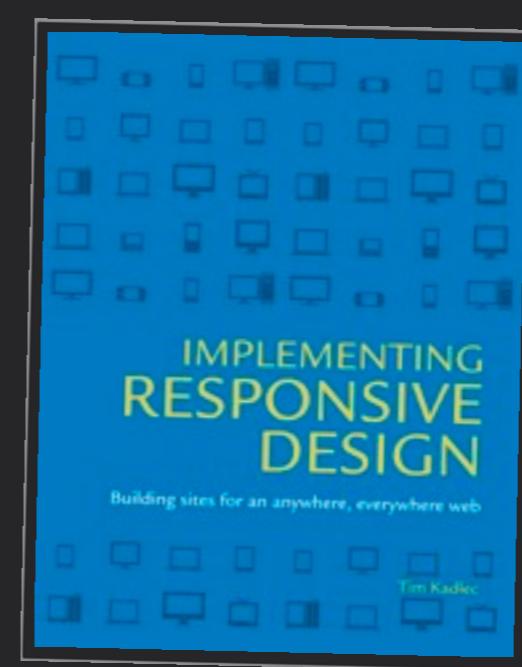
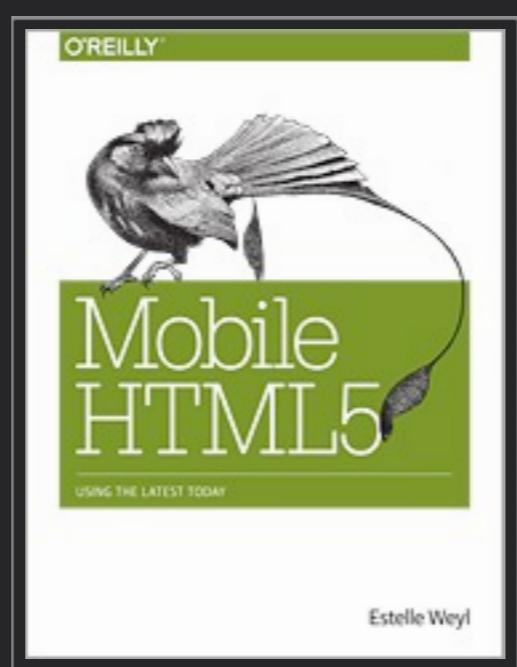
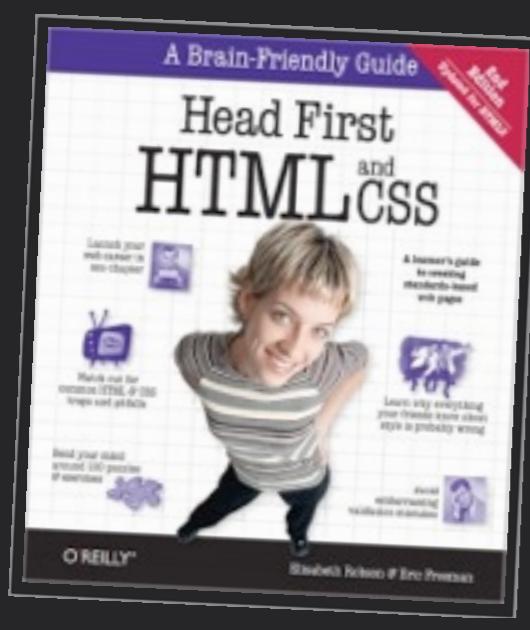


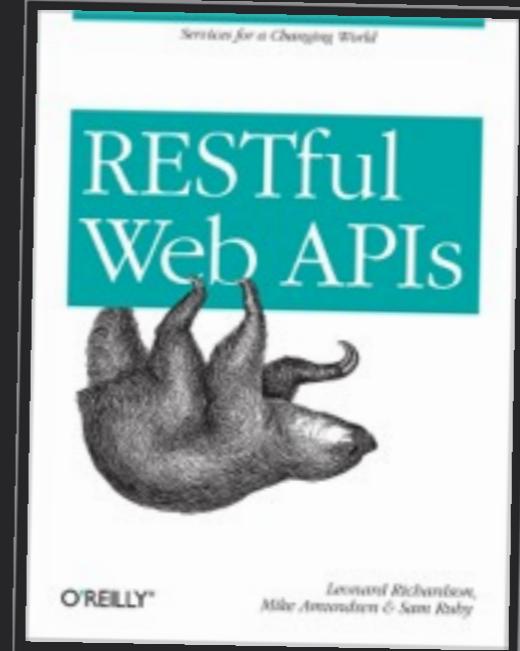
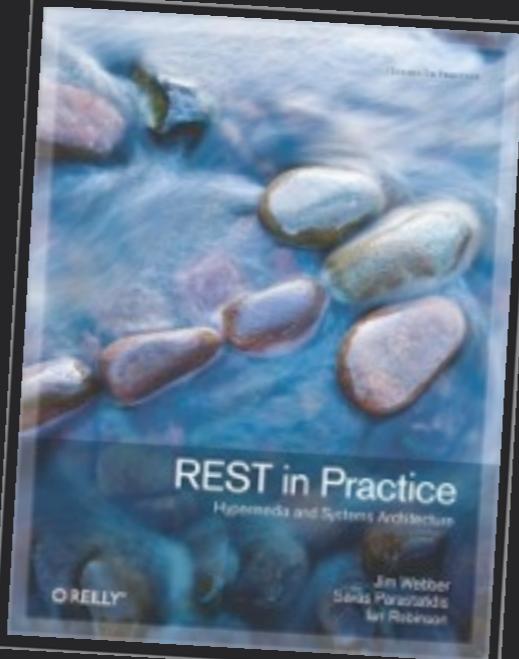
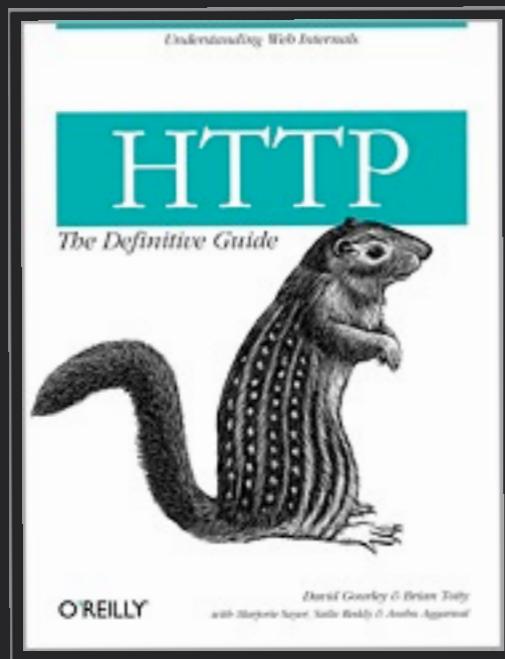
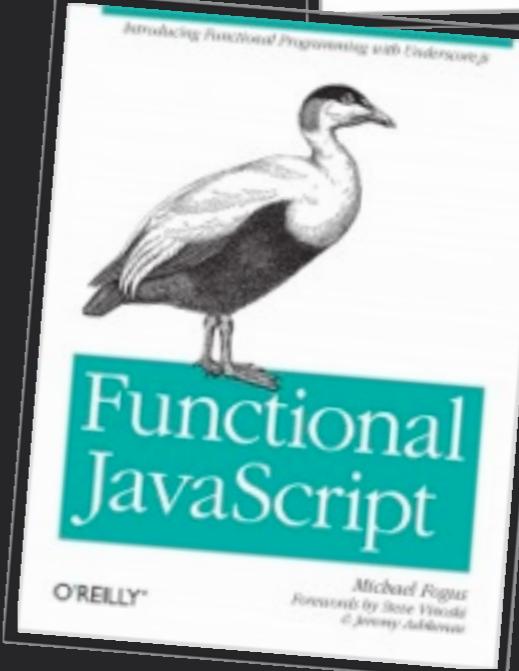
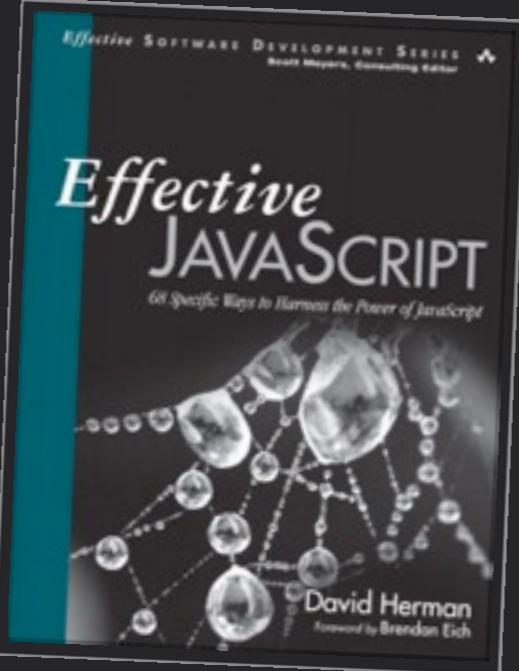
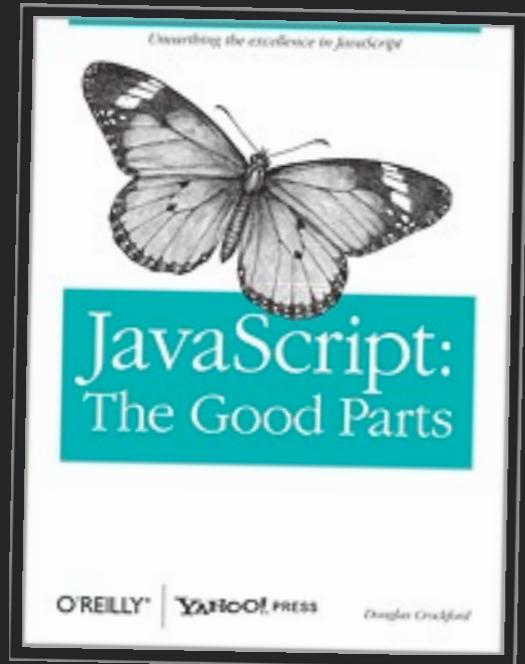
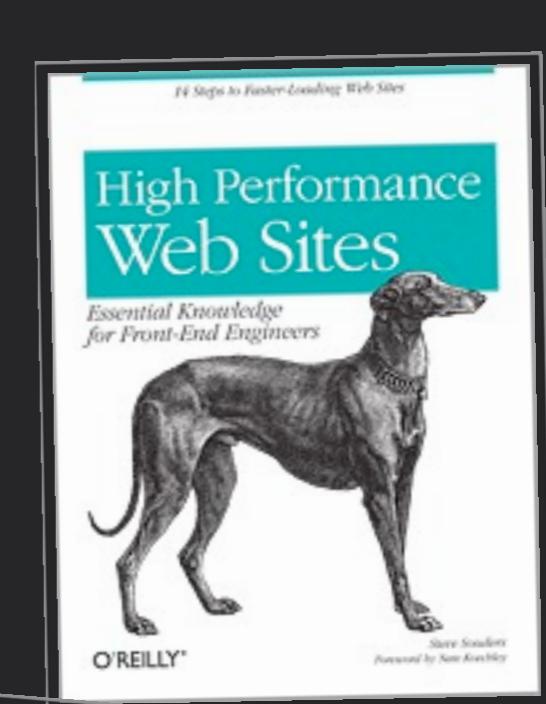
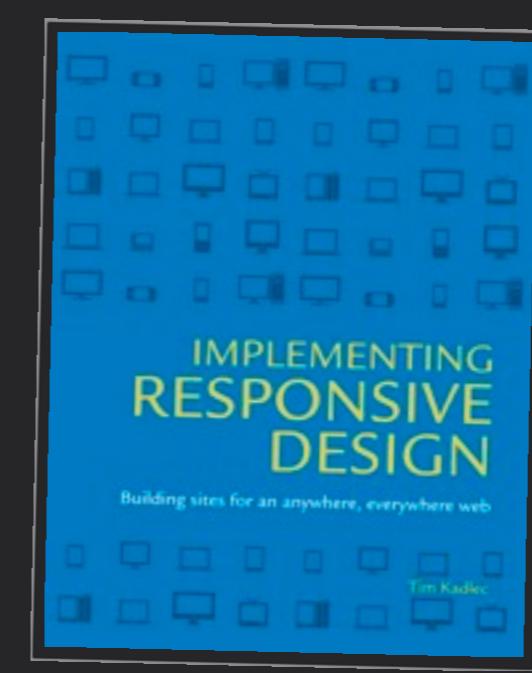
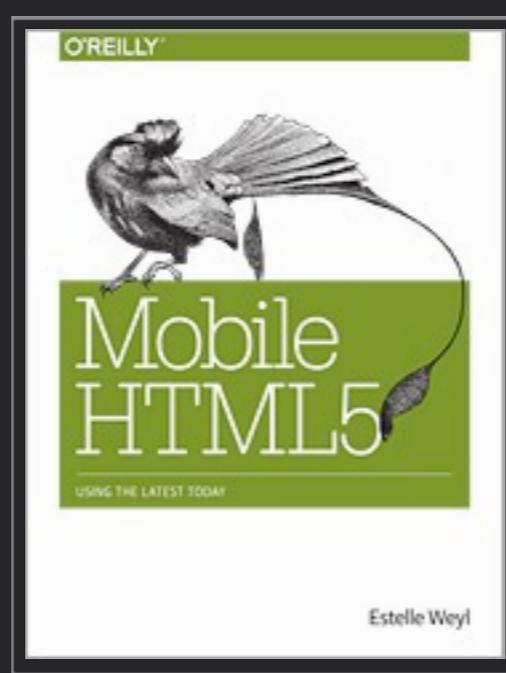
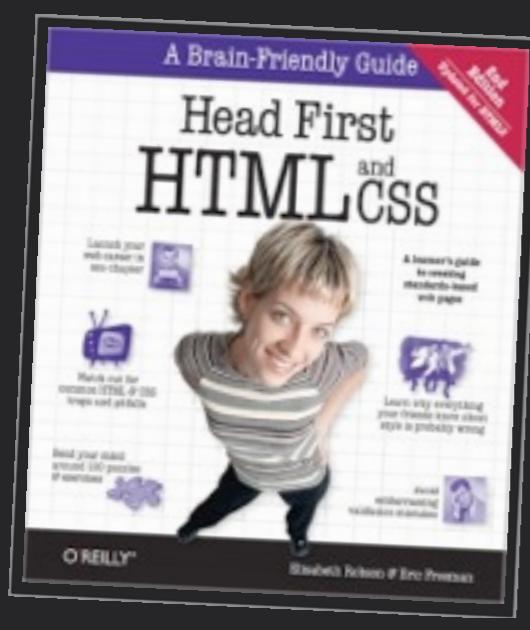


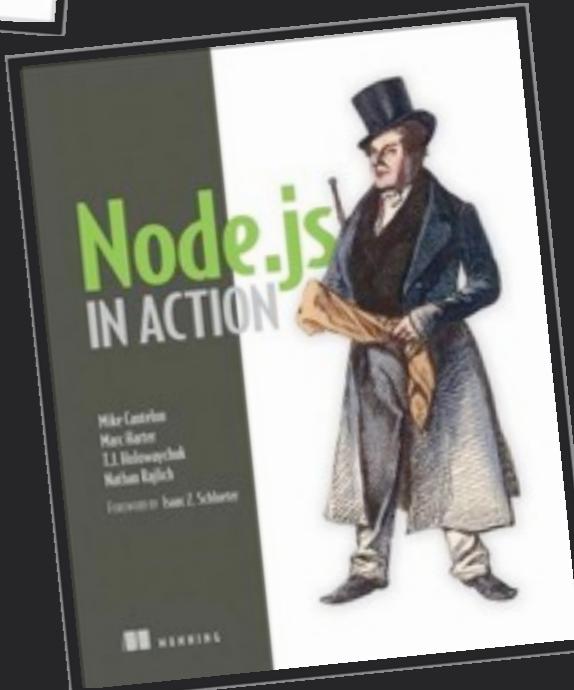
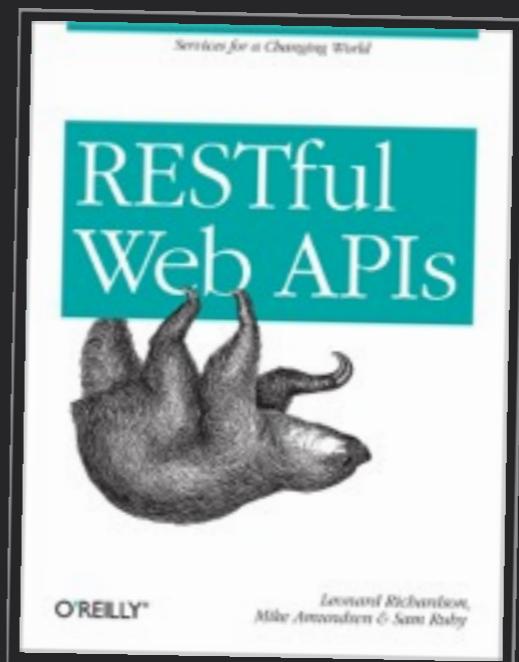
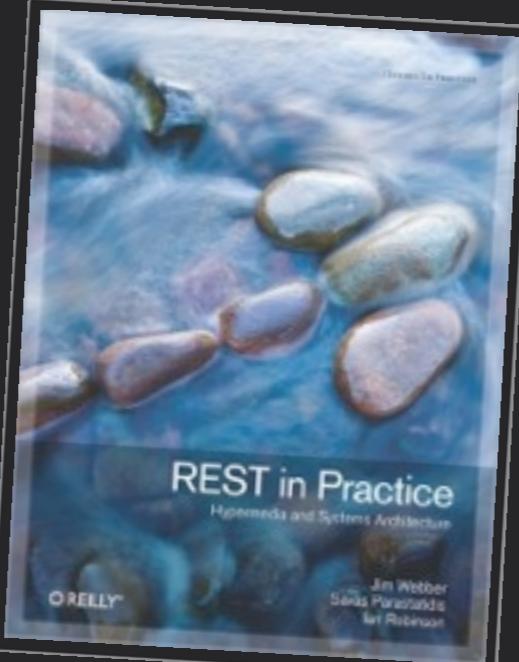
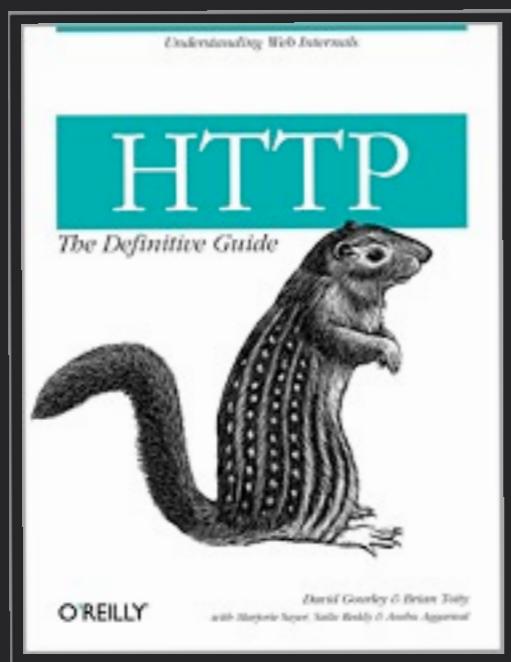
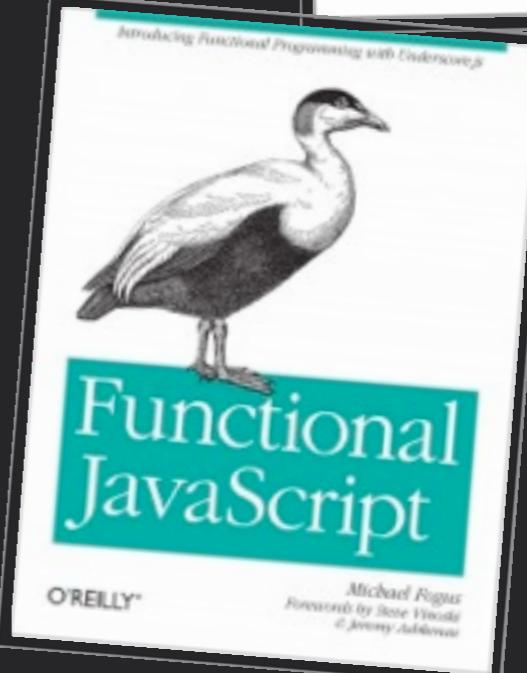
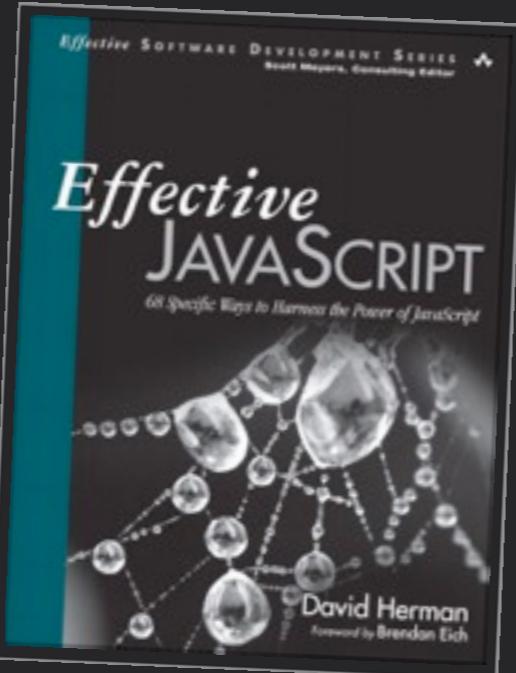
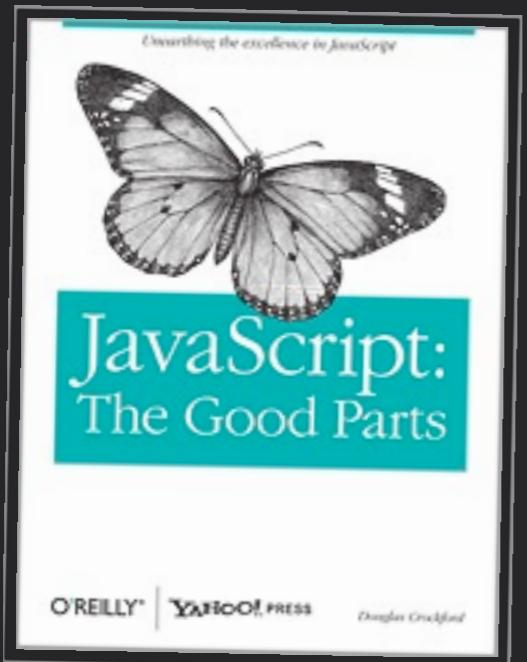
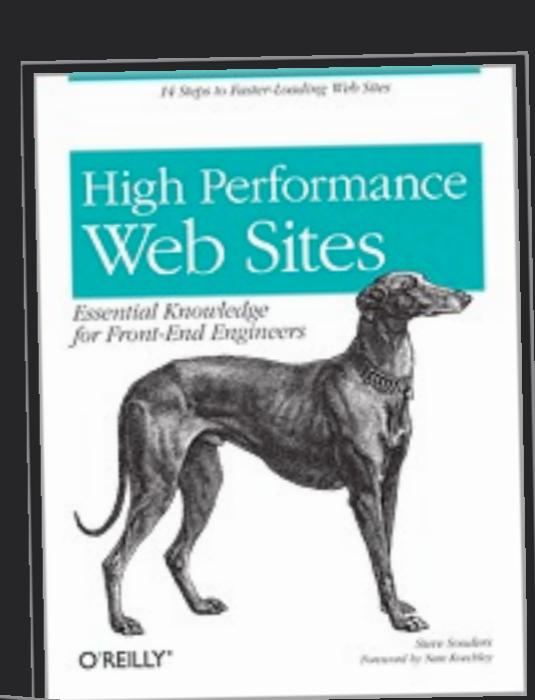
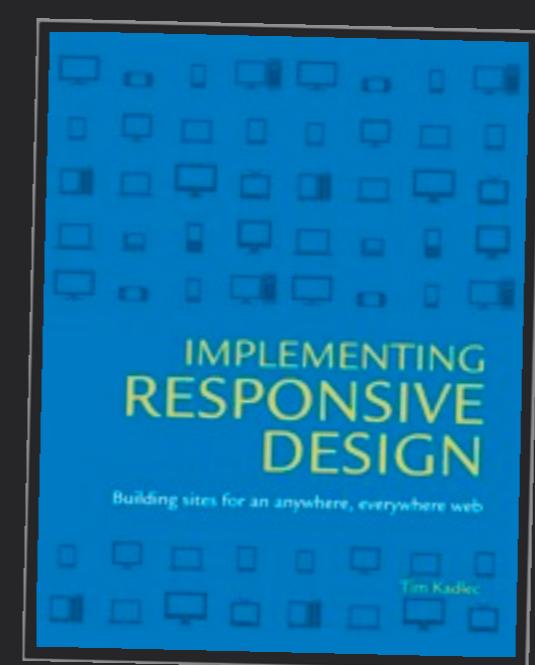
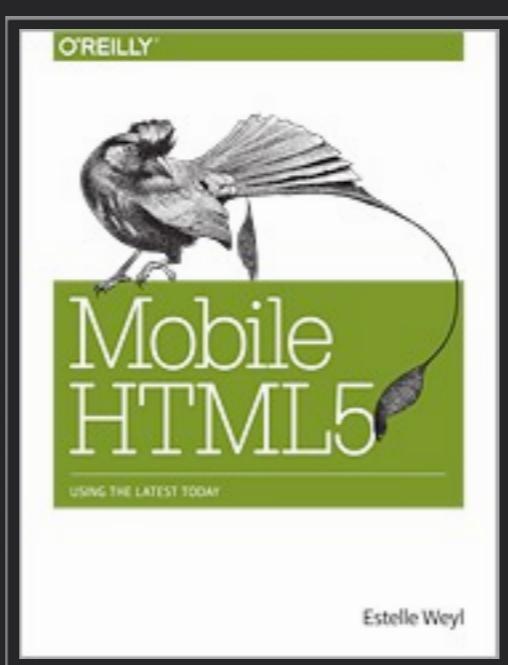
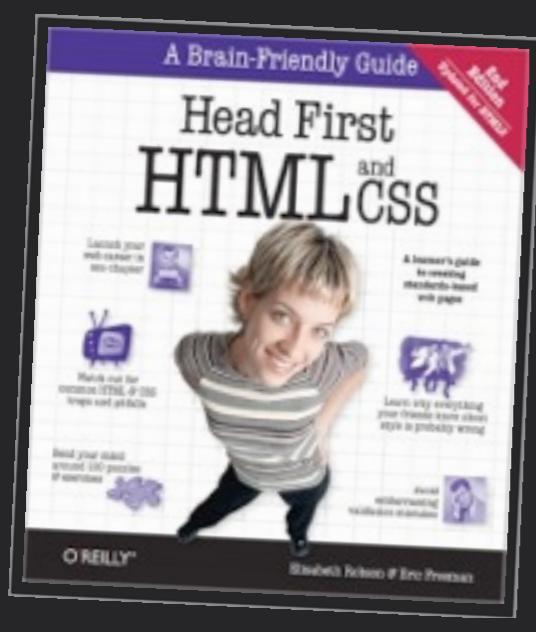


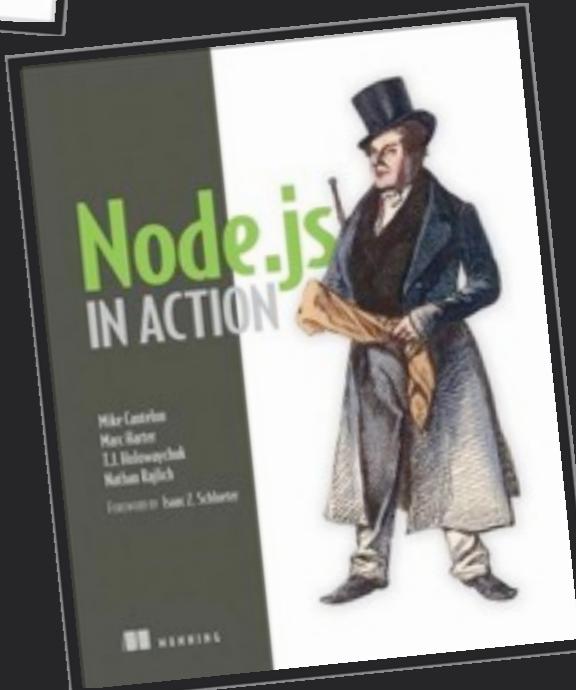
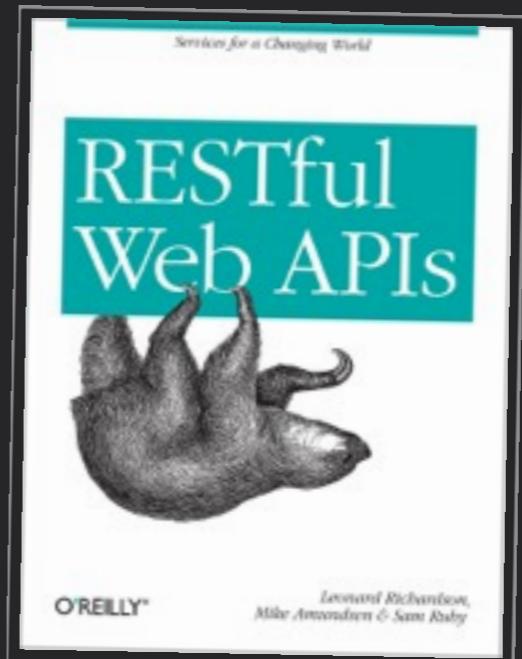
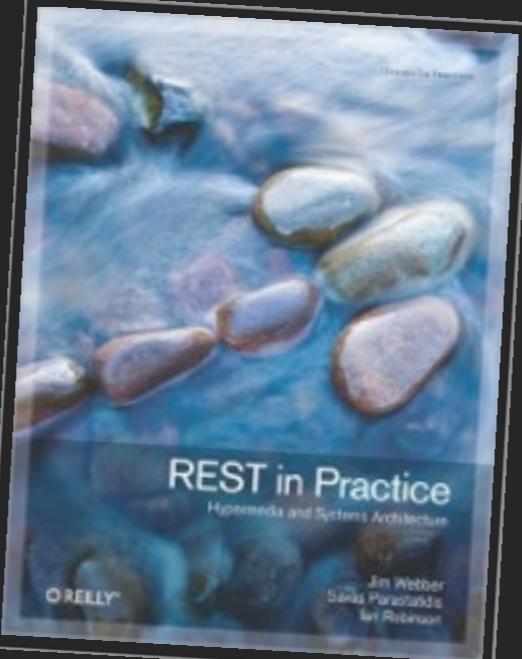
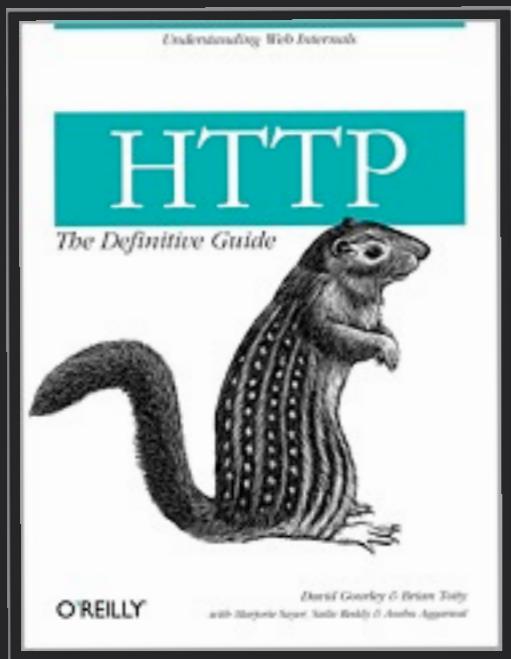
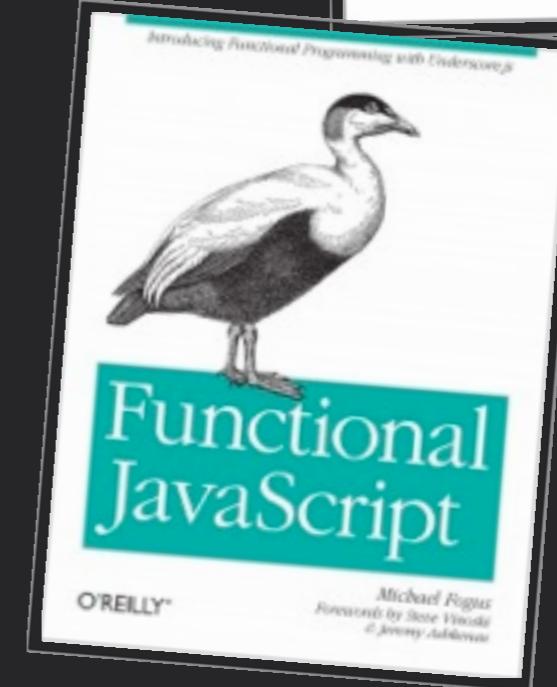
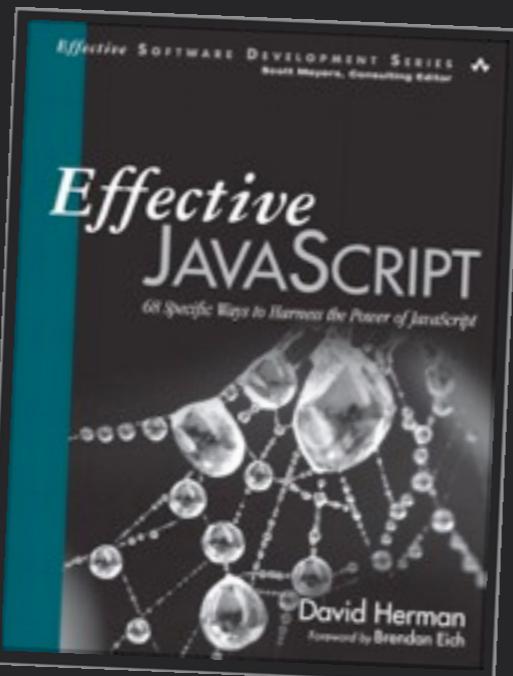
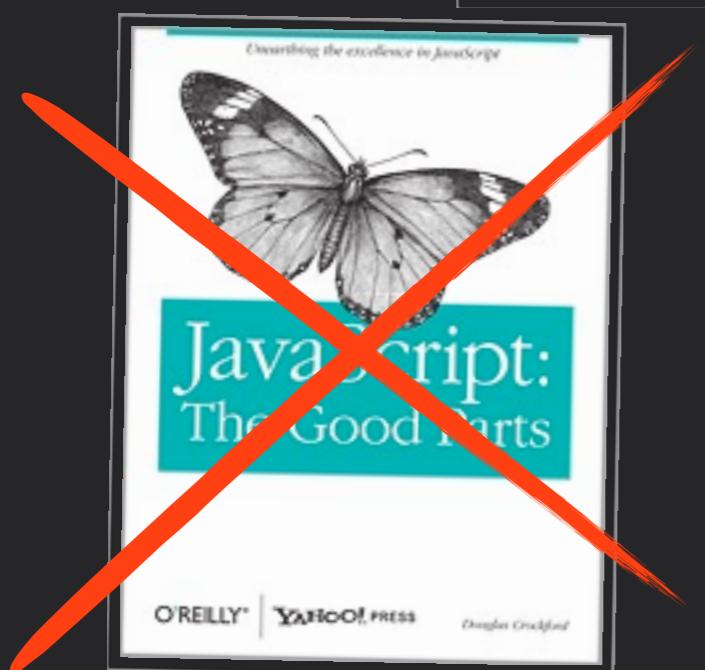
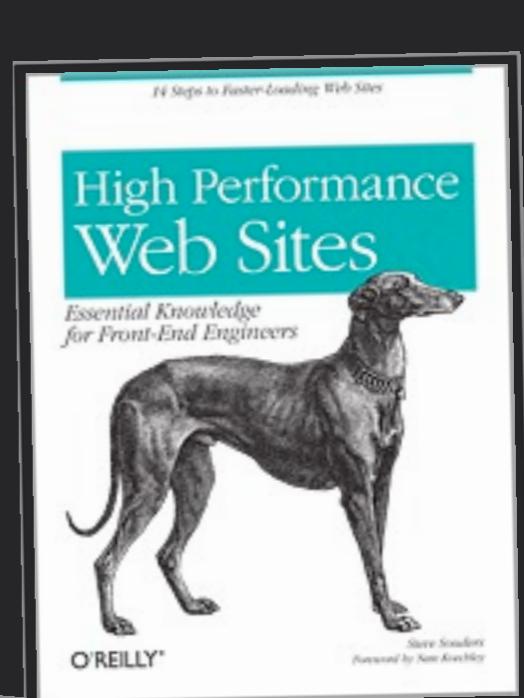
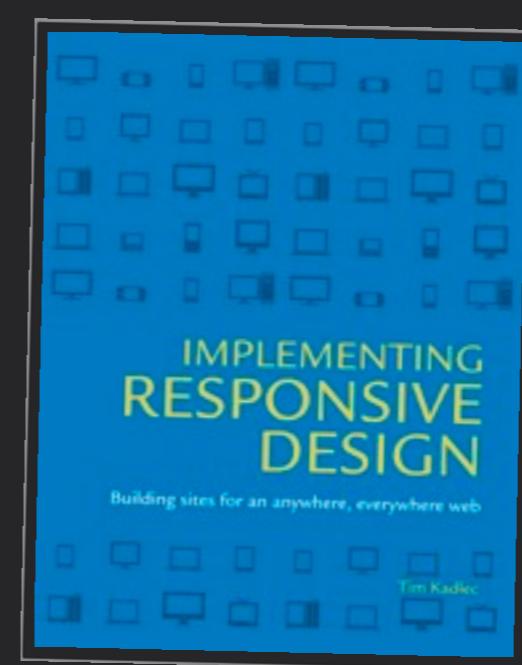
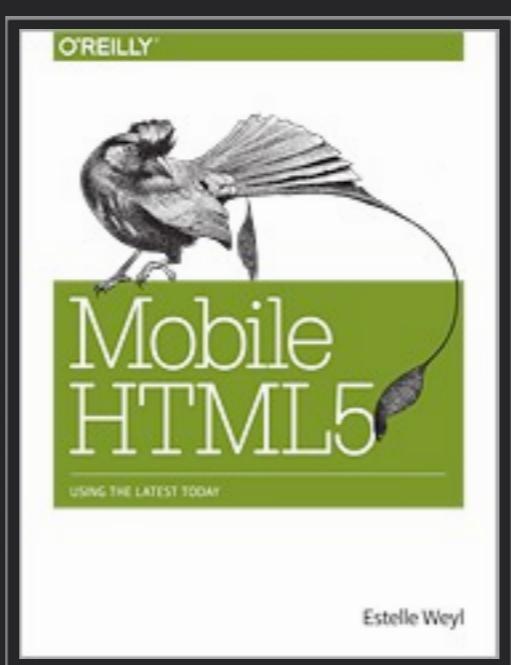
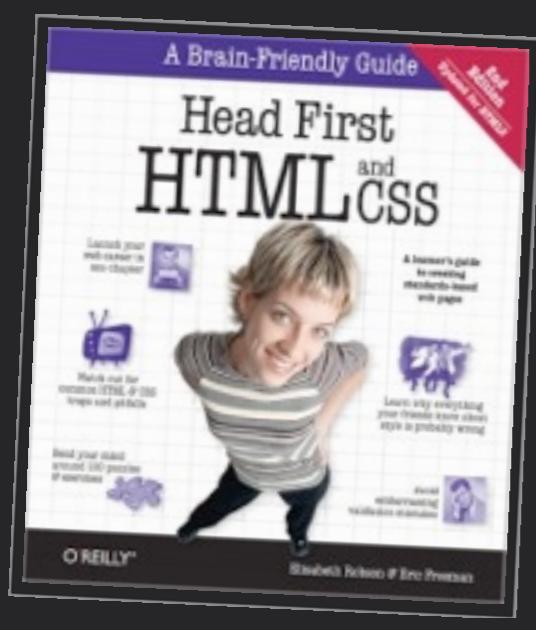


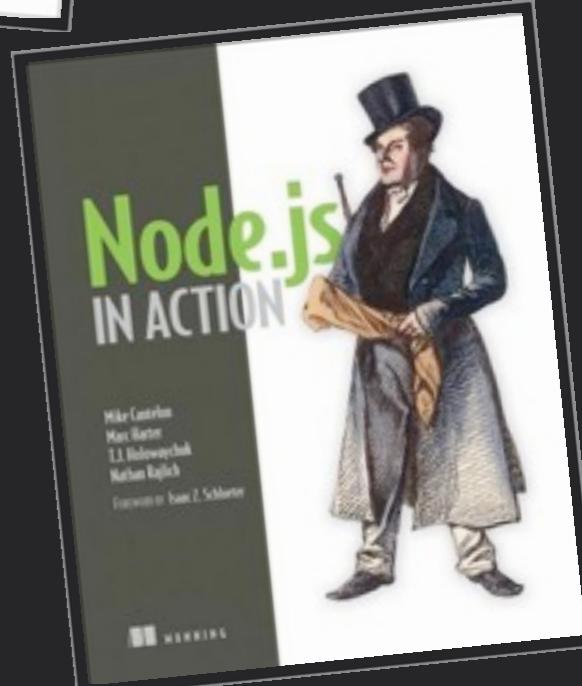
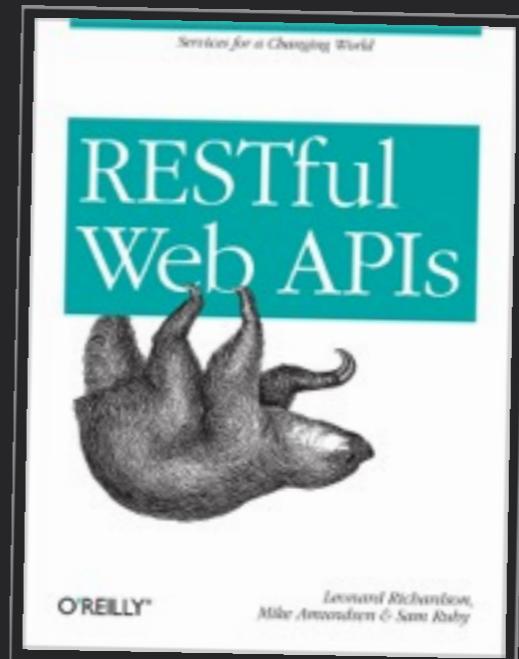
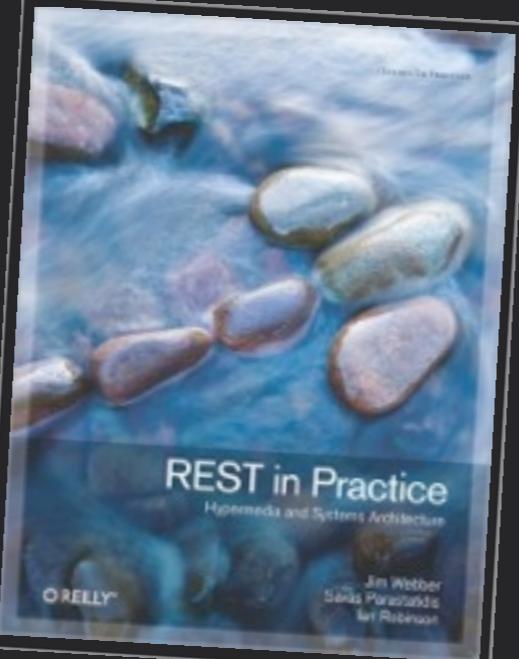
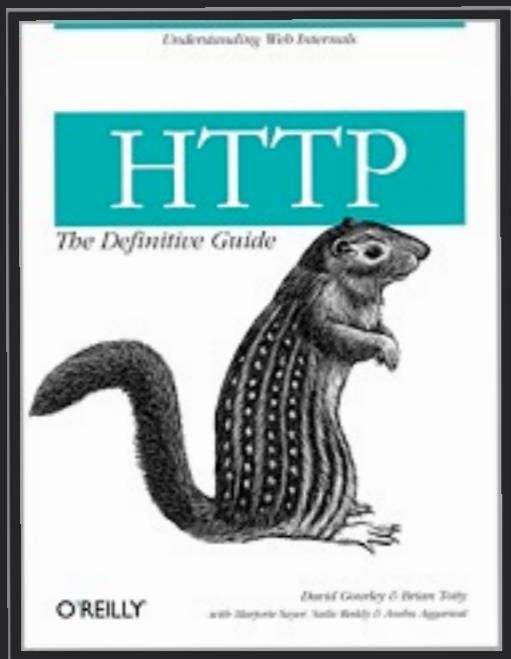
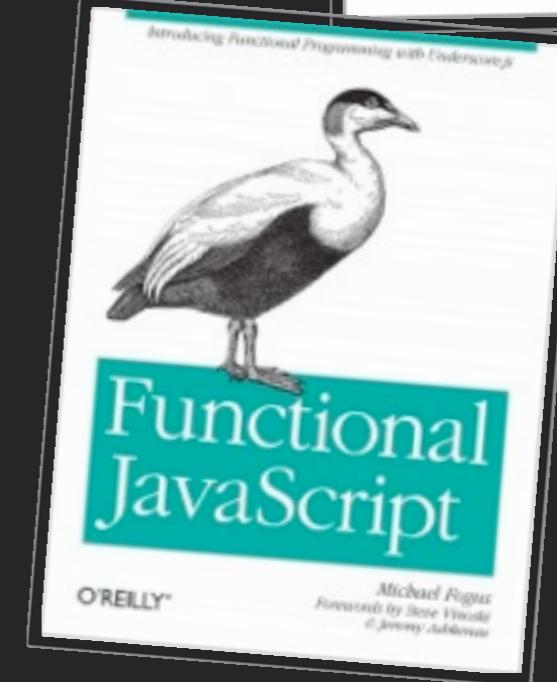
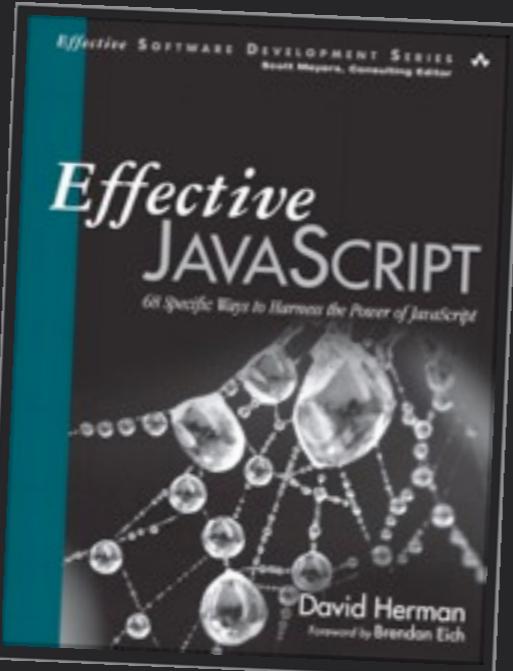
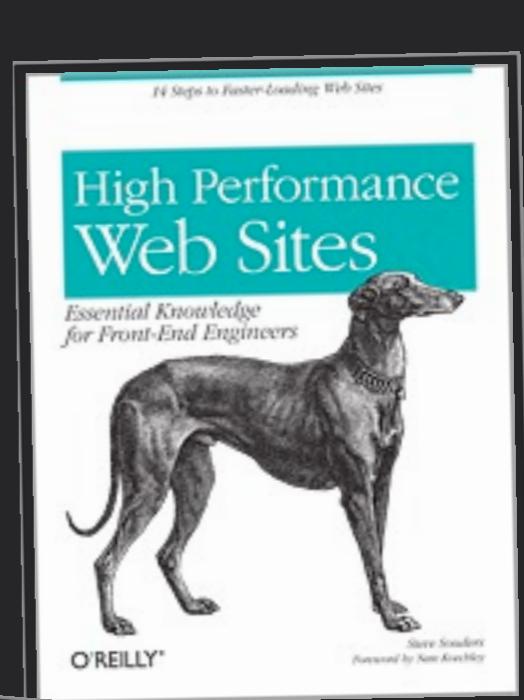
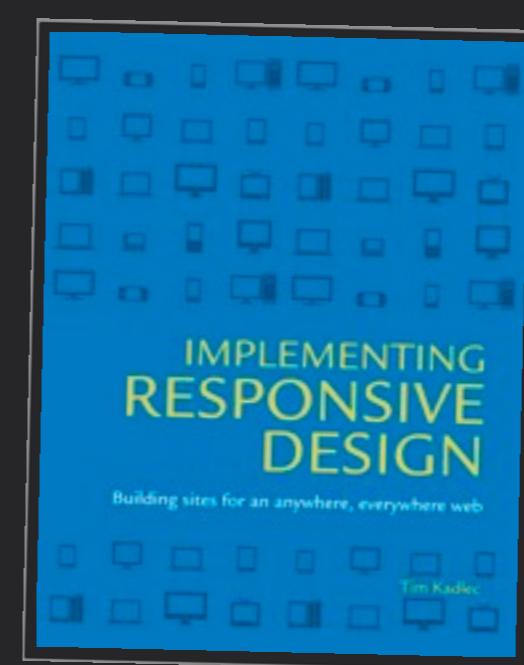
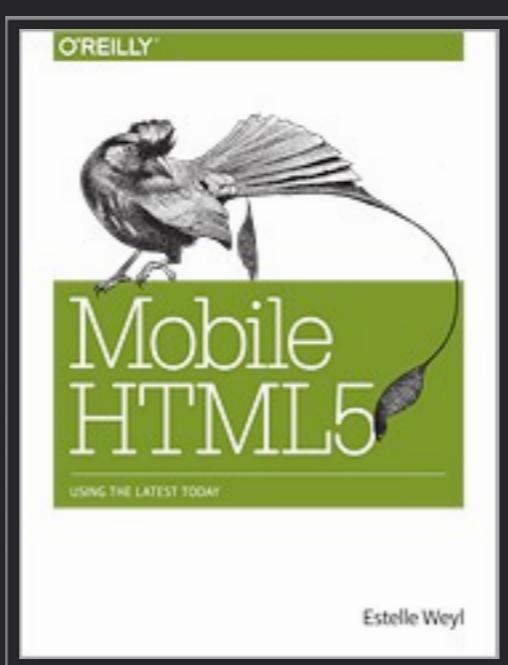
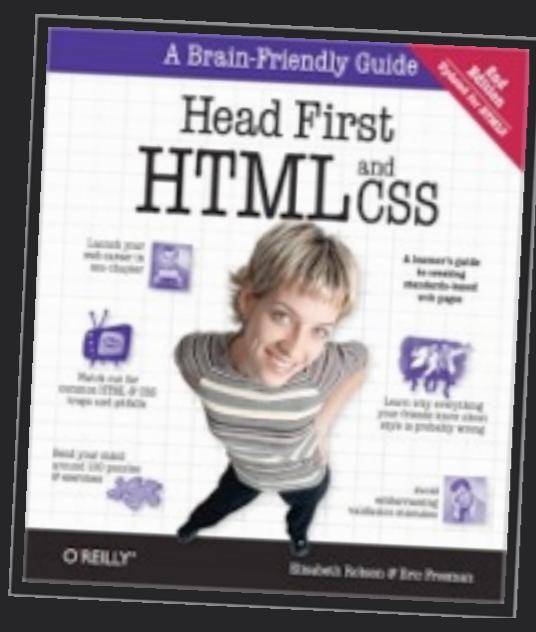


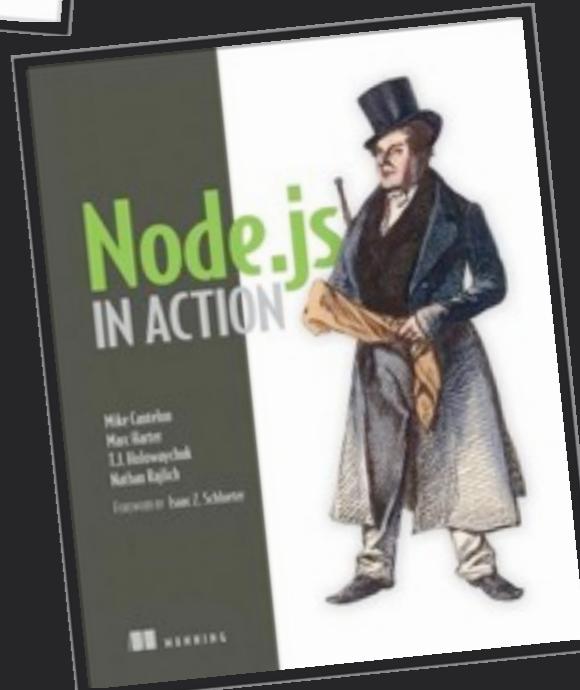
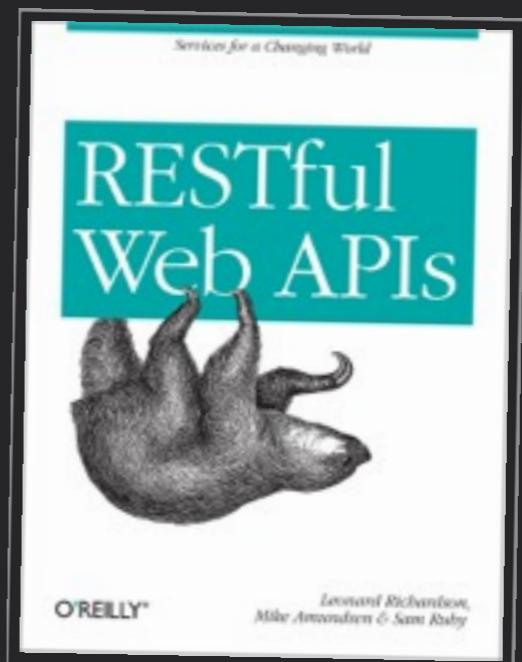
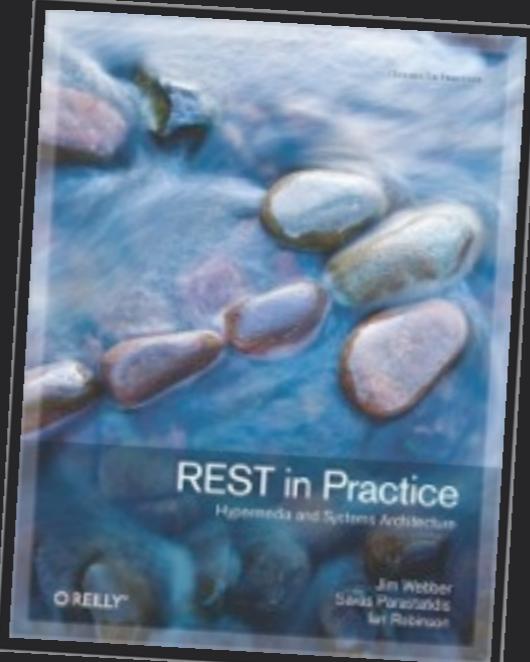
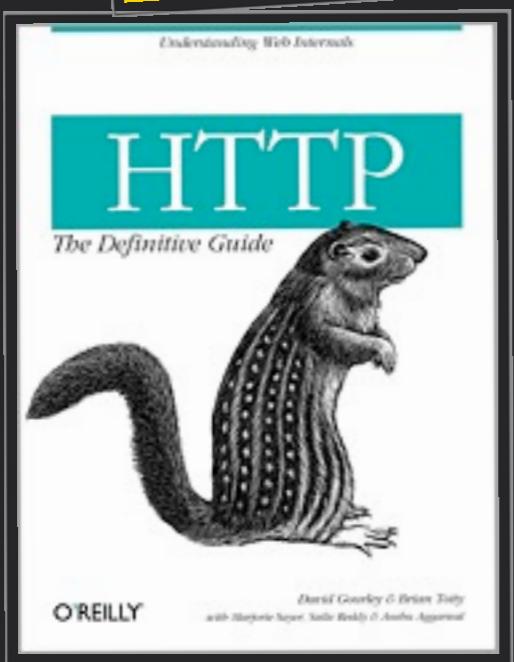
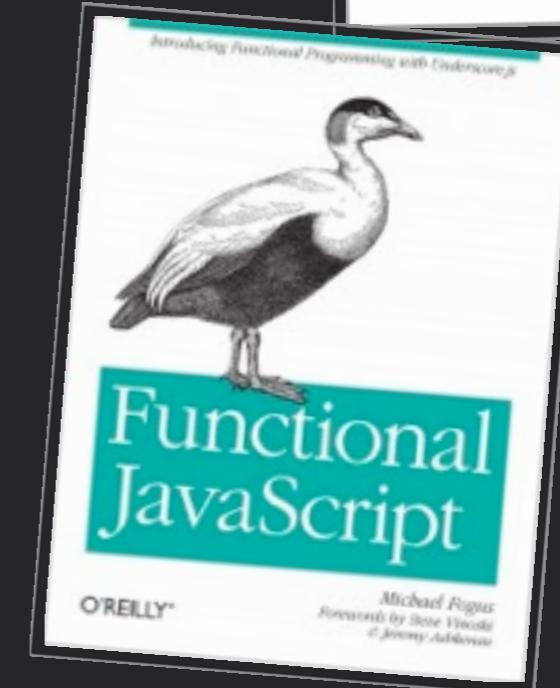
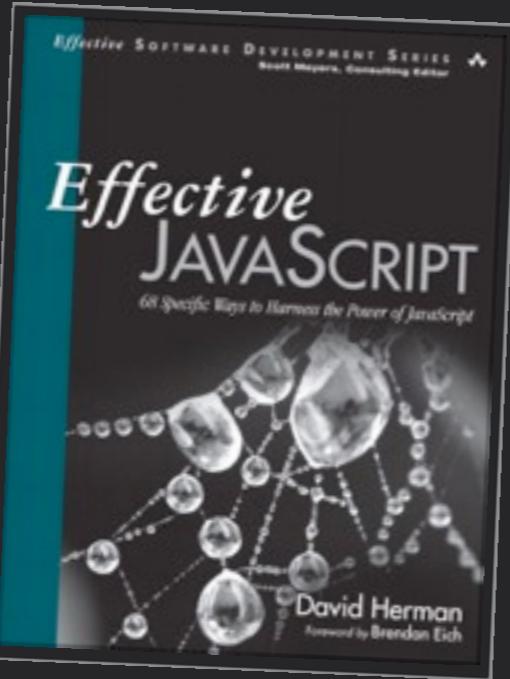
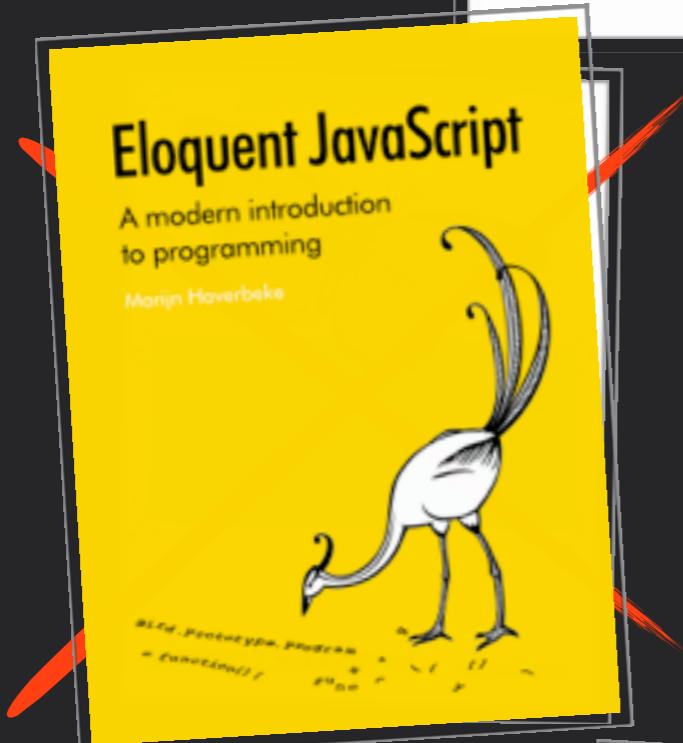
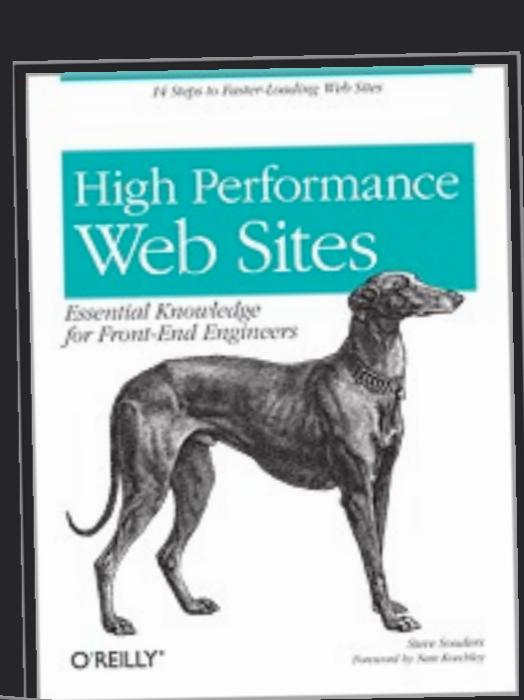
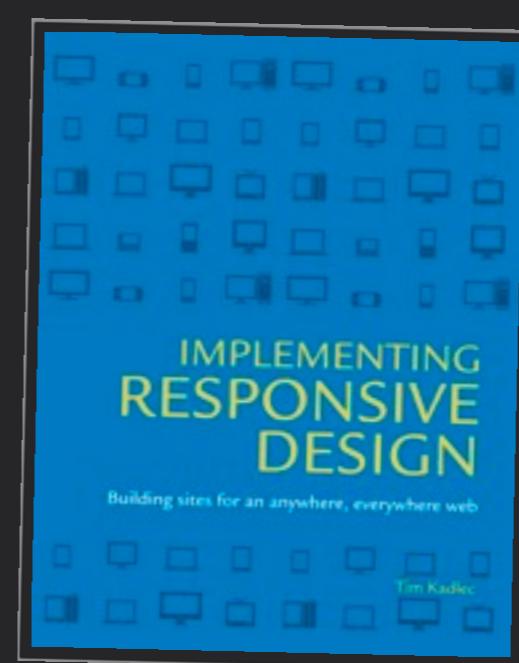
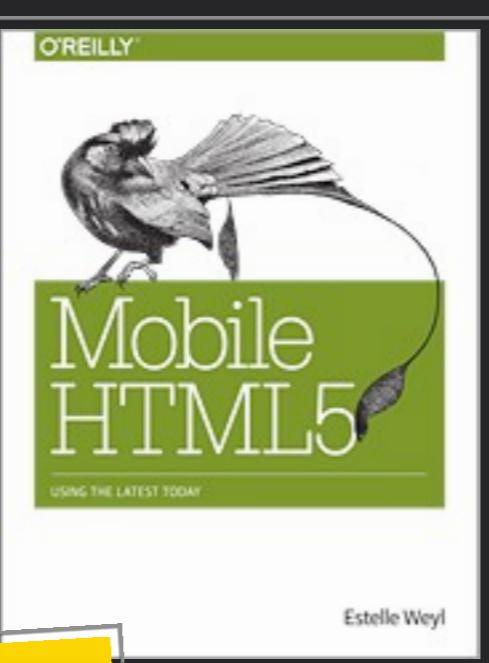
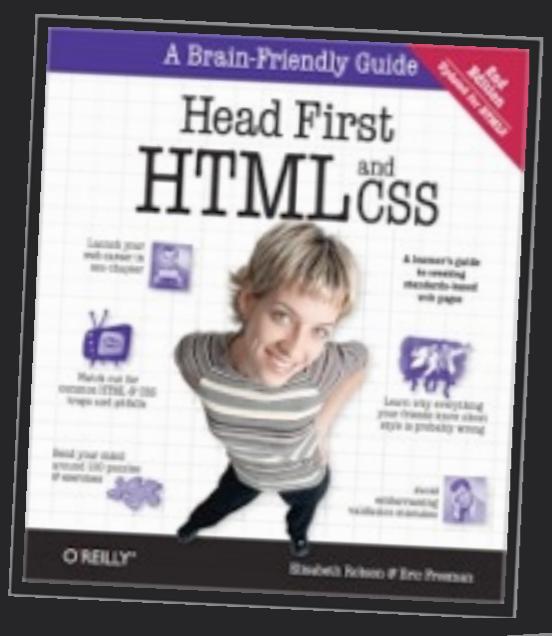


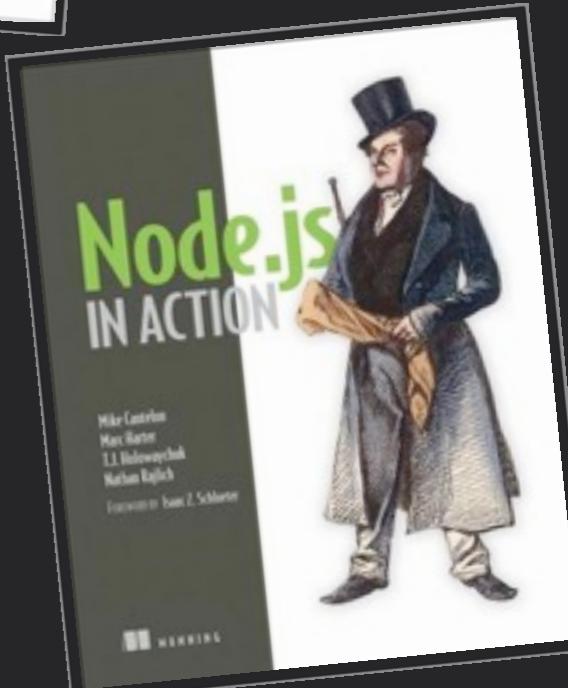
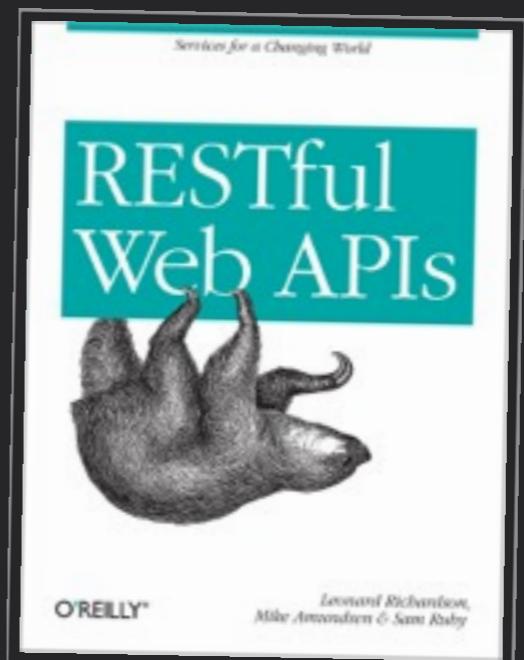
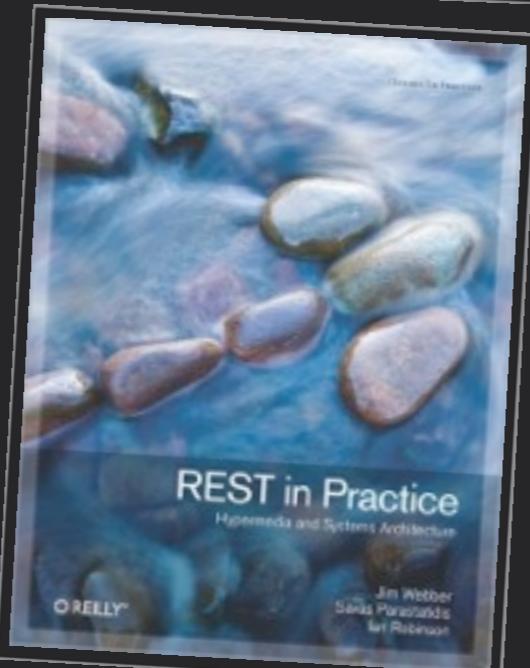
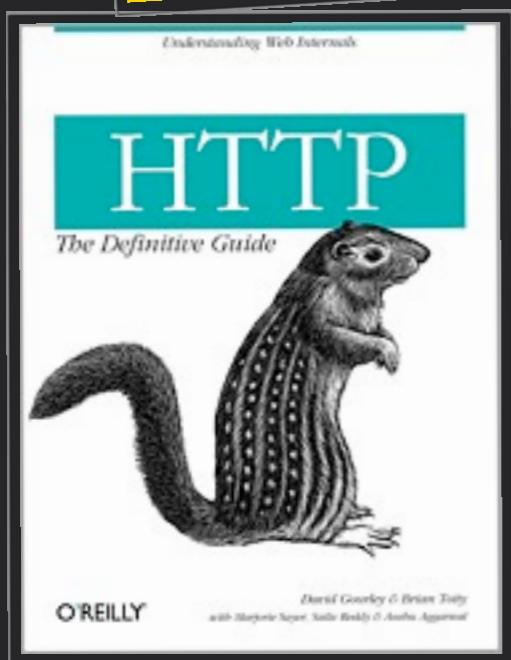
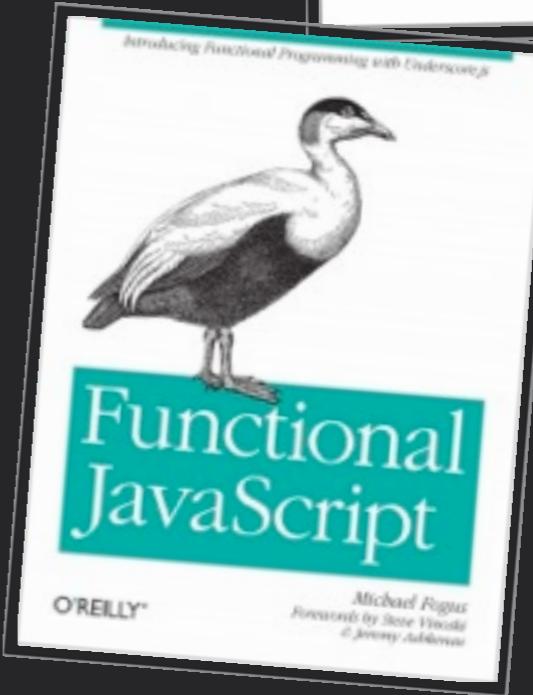
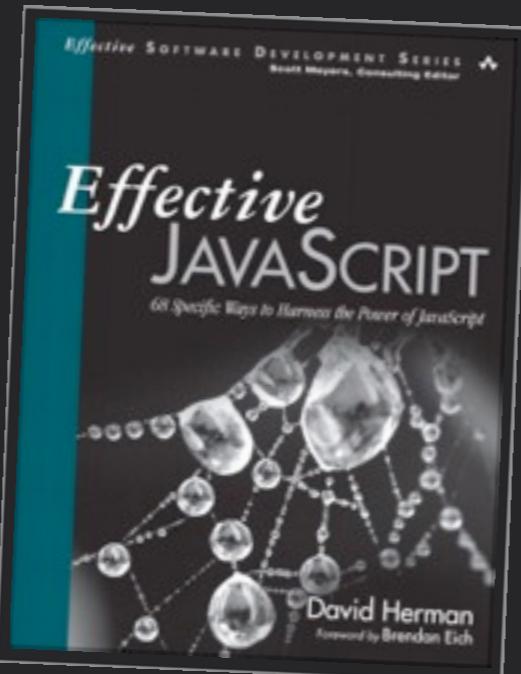
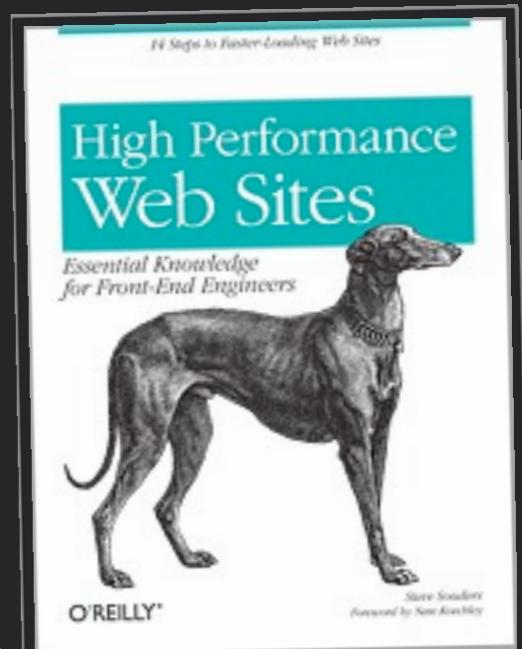
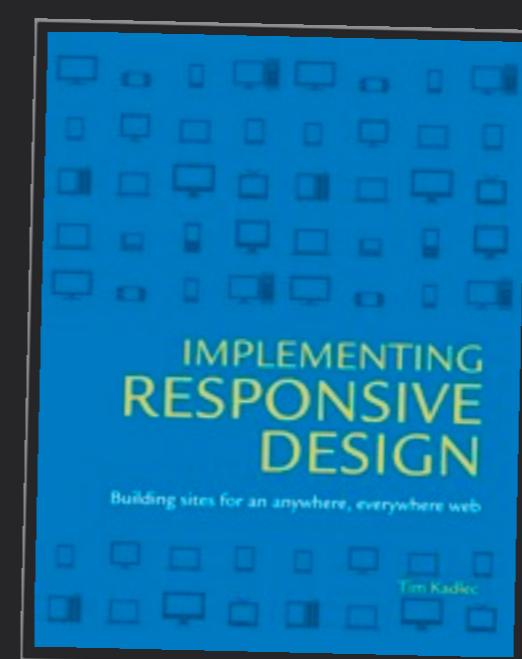
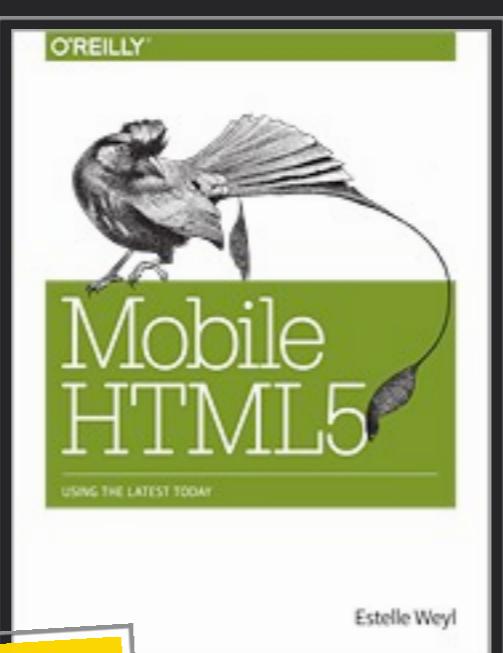
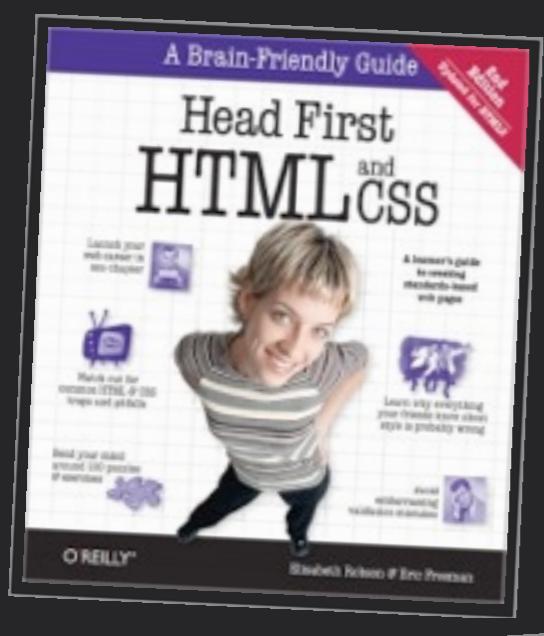


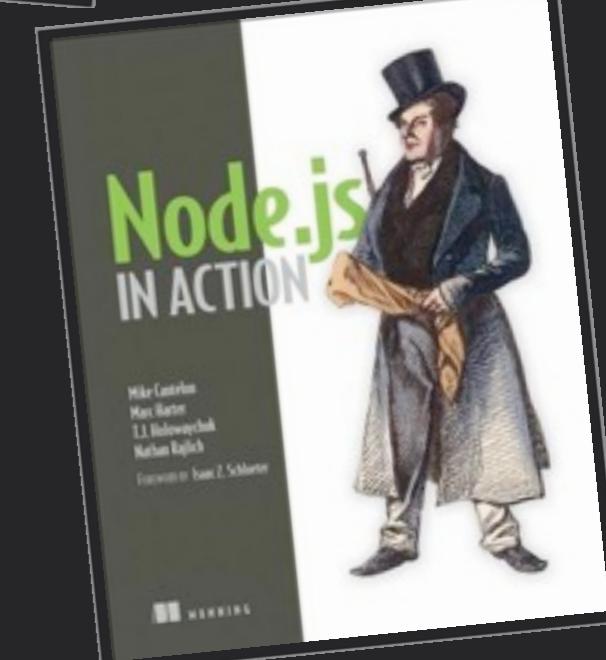
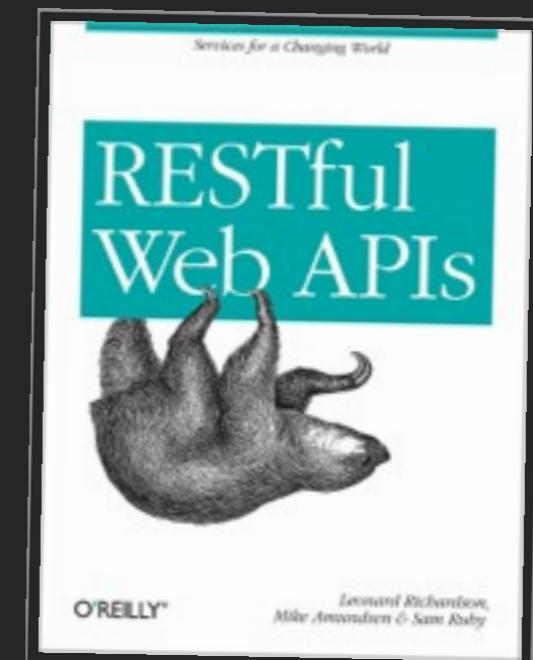
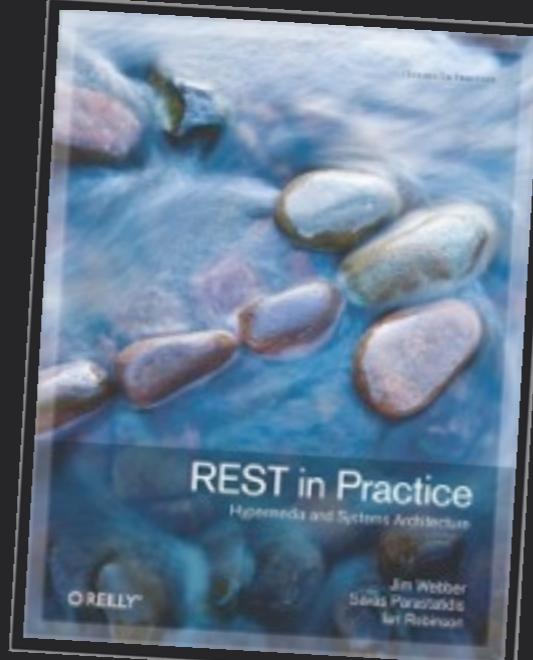
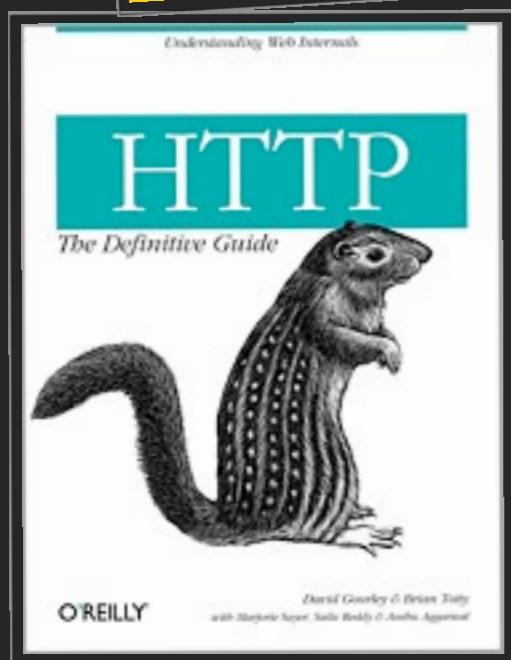
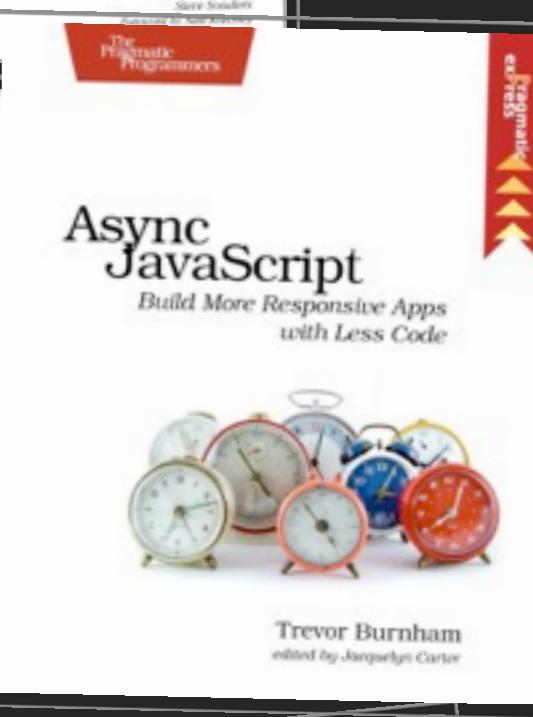
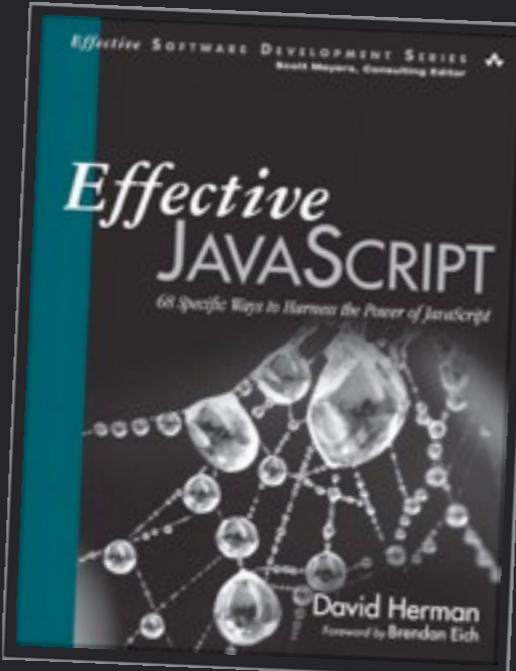
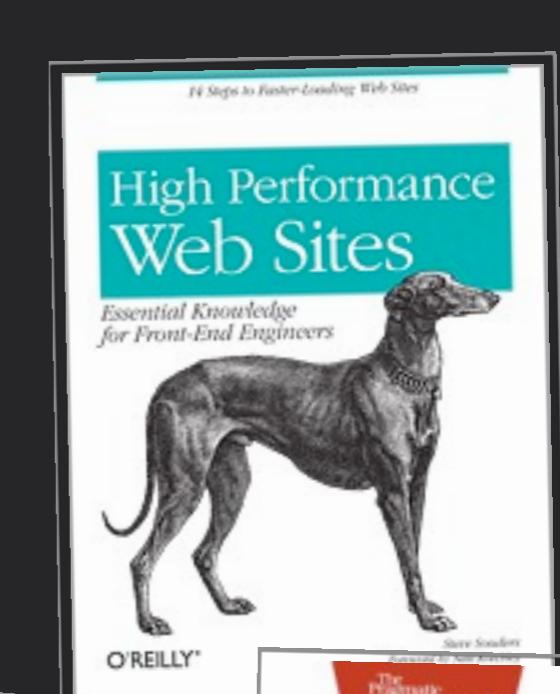
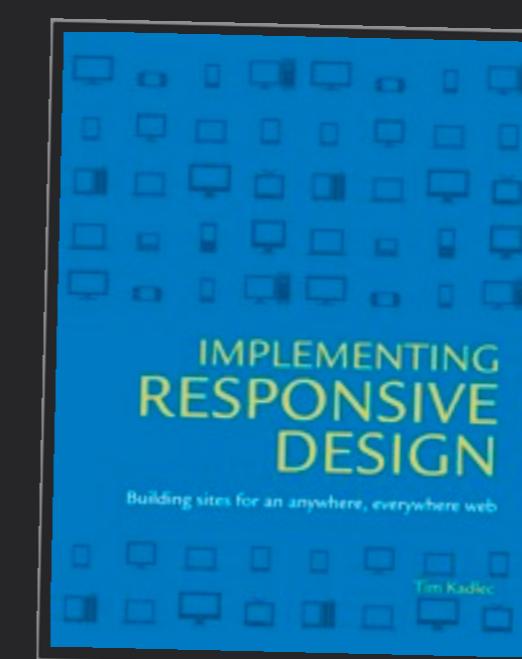
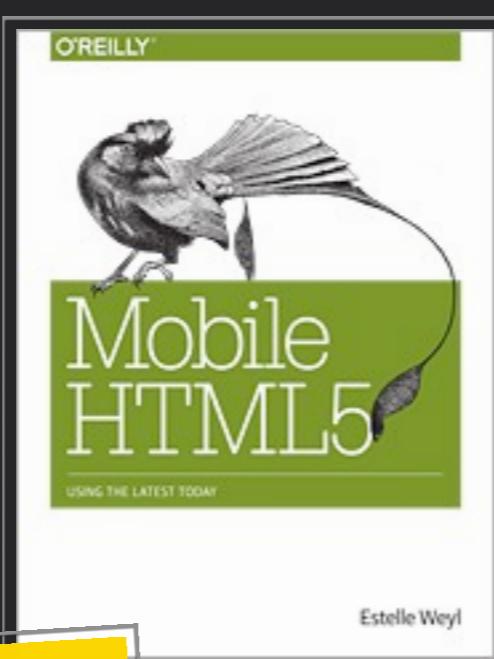
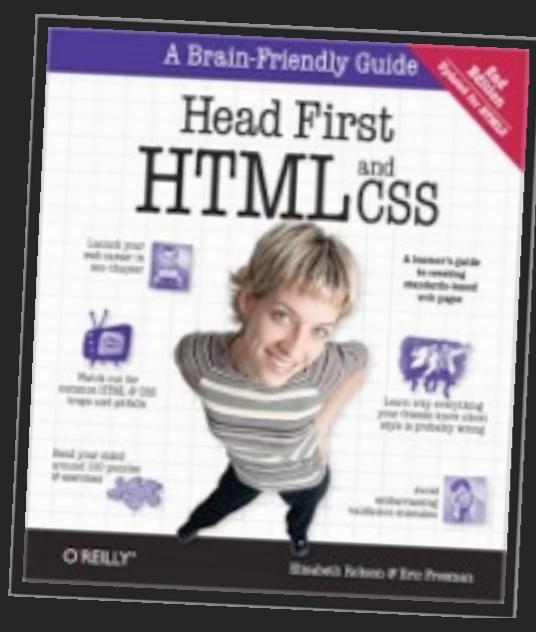












Dobrzy nauczyciele



1. HTML, CSS: Chris Coyier
2. JS: John Resig
3. FP: Michael Fogus
4. REST: Stefan Tilkov
5. WPO: Steve Souders



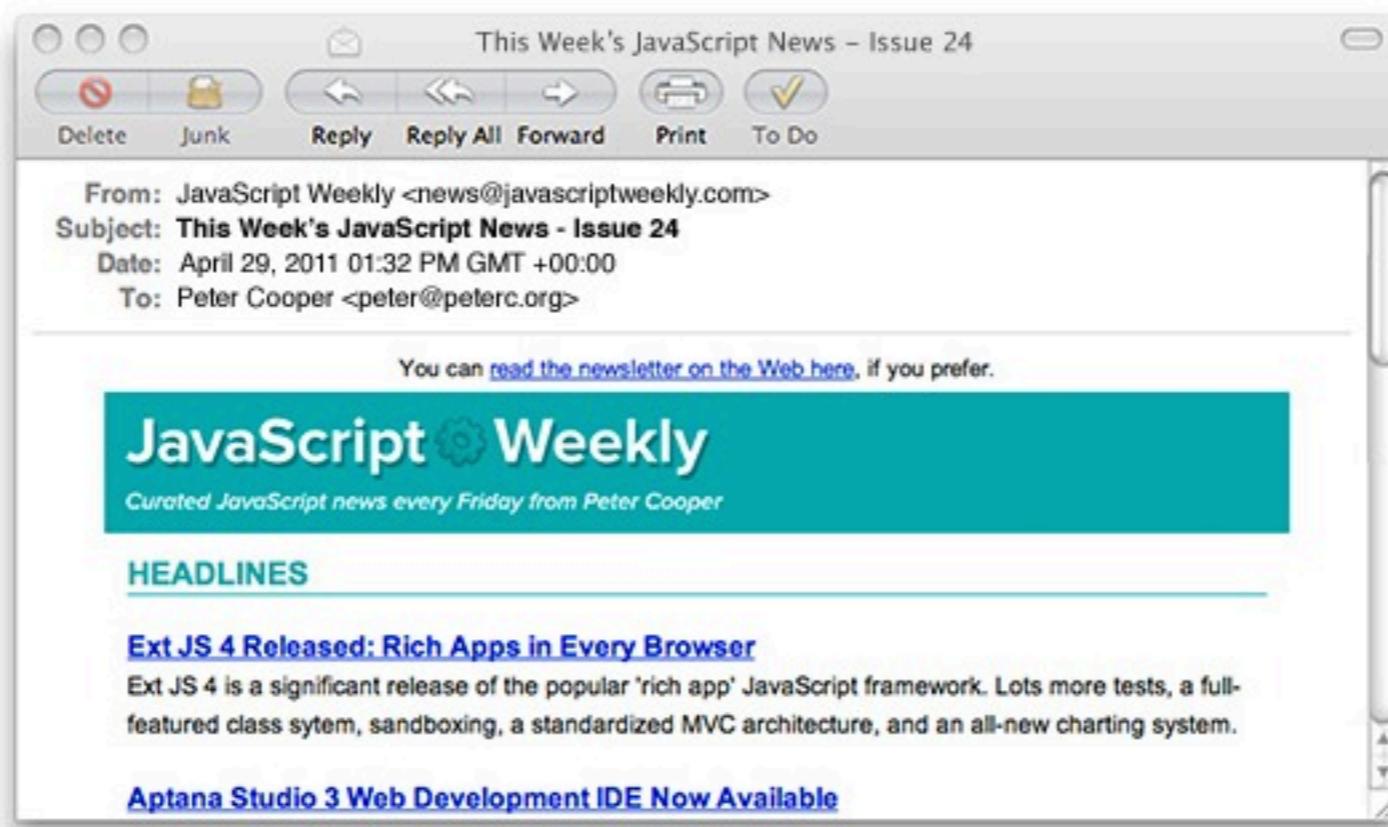
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