

# Responsive Web Design

## An app is not enough



Joakim Kemeny  
@joakimkemeny



Carrier 9:23 PM 100%

www.callistaenterprise.se/ Callista Enterprise - Callista Enterprise

VILKA ÄR VI? VAD GÖR VI? CALLISTA BLOG ARBETA HOS OSS ENGLISH SUMMARY

VÄRDENS IT-ARKITEKTER

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Callista Enterprise är experter på IT-arkitektur och systemutveckling. Våra konsulter har specialiseringar inom SOA, Java EE, integration och Öppen källkod. Med kunskap och engagemang som bas hjälper vi våra kunder att utveckla sin IT-verksamhet med kraften från nya teknologier och metoder.

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**NYHETER**

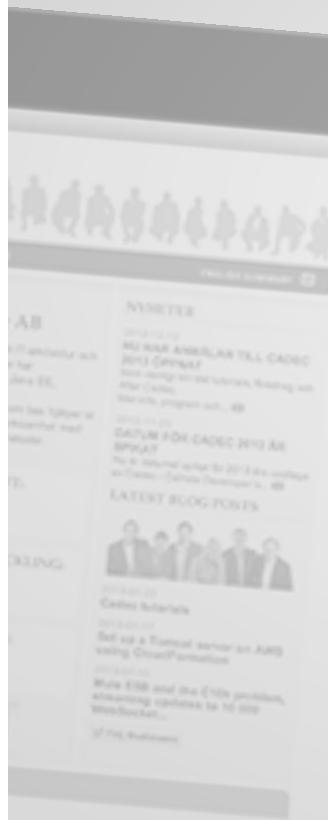
2012-12-12  
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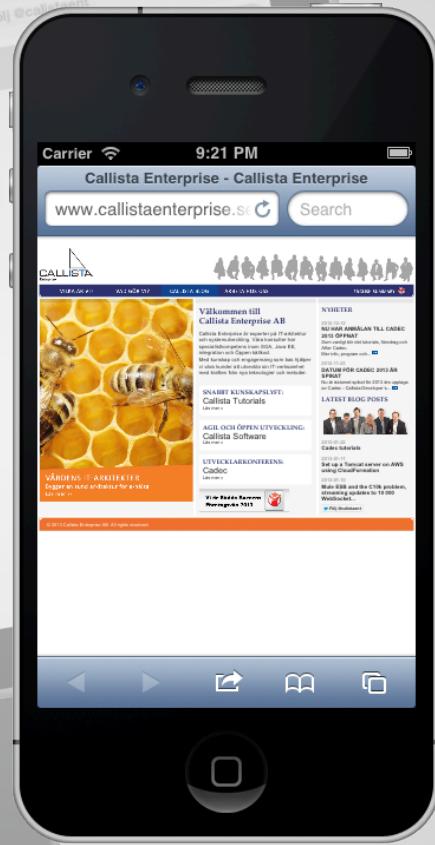
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**VI ÅR RÄDDA Barnens Företagsvän 2013**

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Företagsvän 2013

using Cloud...

2013-01-10  
Mule ESB and the C10k problem,  
streaming updates to 10 000  
WebSocket...

Följ @collabent



UTVECKLARKONFERENS:  
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Företagsvän 2013

using Cloud...  
2013-01-10  
Mule ESB and the C10k problem,  
streaming updates to 10 000  
WebSocket...  
[Följ @Callistaent](#)

...

...

Carrier 9:21 PM

## Välkommen till Callista Enterprise AB

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### UTVECKLARKONFERENS: Cadec

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### Vi är Rädda Barnens Företagsvän 2013

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### NYHETER

2012-12-12

#### NU HAR ANMÄLNINGEN

2013 ÖPPNAT

Som vanligt blir den

After Cadec.

[Mer info, program](#)

2012-11-23

#### DATUM FÖR C10K PROBLEMET

Nu är datumen spänt

av Cadec - Callista

### LATEST BLOGGARTIKLER



2013-01-22

#### Cadec tutorials

2013-01-17

#### Set up a Tomcat server using CloudFoundry

2013-01-10

#### Mule ESB and the C10k problem, streaming updates to 10 000 clients using WebSocket...





1

## Ignore mobile

*Visitors will use a computer anyway*



## Ignore mobile

*Visitors will use a computer anyway*



## Create m.company.com

*Mobile visitors are only interested in a subset of the information*

- 
- 1
  - 2
  - 3

## Ignore mobile

*Visitors will use a computer anyway*

## Create m.company.com

*Mobile visitors are only interested in a subset of the information*

## Create an app

*Redirect all mobile visitors to the app stores*

**Ignoring mobile is...**

**Ignoring mobile is...**

# **Stupid!**

Get the facts at [www.lukew.com](http://www.lukew.com)

- 
- 1
  - 2
  - 3

## Ignore mobile

*Visitors will use a computer anyway*

## Create m.company.com

*Mobile visitors are only interested in a subset of the information*

## Create an app

*Redirect all mobile visitors to the app stores*

**Creating m.company.com is...**



**TELIA 3G** 19:58 60%

P4 Skaraborg | Sveriges Radio  
sverigesradio.se/skaraborg Google

Visa sidan anpassad för pekskärmssmobil

**Skaraborg**

Min radio Alla program Alla kanaler Kontakt

P1 P2 P3 P4 Nyheter Sport Veterinär & miljö Kultur Språk Bara... Mer ▾ 30 kanaler, program och personer

**Karlstad BK - Örgryte IS**

Fotbollsextra med Skövde AIK och IK Gauthiod

På lördag finns vi på plats direkt från de härspelarna i matcherna i söder om Skövde AIK åker till Västervik för en rörlig presskonferens mot Karlstad BK. Du får hela matchen direkt här på mobilnätet.

[ 16:00] Lyssna direkt på Karlstad BK - Skövde AIK

Hemsida till Lönssättning för IK Gauthiod för lokala av den svenska storklubben Örgryte IS. Du hör kontinuerliga rapporter från den matilda Skaraborgspartens sändningar direkt i FM-redion och du kan också lyssna på senaste nyheterna.

**Nyheter, sport och väder**

**SKÖVDE** Budbilsräntare hävdar oskulds Uppdaterat: kl 15:45

Budbilsräntet i Skövde i höstas var ett insiderbrott och den budbilschaufför som misstänks ligga bakom brottet dömdes idag, tillsammans med en annan man, till flera års fängelse.

[ 39-åringen advokat: "Vi tänker överklaga"]

**OHLSSONS KOMPANI** Mellberg på twitter - rena grekiska Publicerat: kl 10:03 ▾ Kommentera

Den som vill ta del av Gullsängplogen Olof Mellbergs tankar inför sommarens fotbolls-EM bör vara vass på grekiska. Hans twitterkonto inte innehåller ett enda ord modersmål. Kompaniet har tagit hjälp av en expert för att ta reda

VÄDER TRAFIK & SERVICE

TRAFIKLÅGET En vacker vecka - Lyrestad i rökning mot Mariestad. Trafikolycka Räddningspljänt på väg

VÄGARBETEN 08-45: E20 Yara-Skara i höjd med Jung. Omledning på gatan längs vägen till följd av vägslut. ca en kilometer lång sträcka.

KOLLEKTIVTRAFIKEN 16:00: Skövde-Töreboda. Förseningar kan förekomma 2-3 ggr en enskiltrespass.

EKONOMIETERN RADIOSPORTEN

19:23 Stockholmsbörnen avslutade veckan på minus 19:24 Handlarna röstade ja till EU:s finanspolitik 19:25 "Det är viktigt att se att det faktat att servena spritt på återbesöksrätten", säger den

16:04 "Dom mot djurhäntekivikens viktig markering" 18:14 Jämför i läten inifrån välet i Grönland 17:04 Bistånd regler för växemperat driften

**TELIA 3G** 19:58 60%

Sveriges Radio Mobil - Sidan finns ej  
m.sverigesradio.se/sida/

**sverigesradio**

## Sidan kunde inte hittas

Sveriges Radio har en ny mobilsajt. Det mesta innehållet har därför en ny adress: <http://m.sverigesradio.se>

Om du har en äldre telefon kan du använda <http://mini.sverigesradio.se> för att hålla dig uppdaterad med de senaste nyheterna.

More examples at [wtfmobileweb.com](http://wtfmobileweb.com)

**Creating m.company.com is...**

Creating m.company.com is...

**Not great!**

- 
- 1
  - 2
  - 3

## Ignore mobile

*Visitors will use a computer anyway*

## Create m.company.com

*Mobile visitors are only interested in a subset of the information*

## Create an app

*Redirect all mobile visitors to the app stores*

**Creating an app is...**

# Create an App or a Site?

- Will users use it every day?
- Should it talk to the users?
- Does it need device access?

# Create an App or a Site?

- Will users use it every day?
- Should it talk to the users?
- Does it need device access?

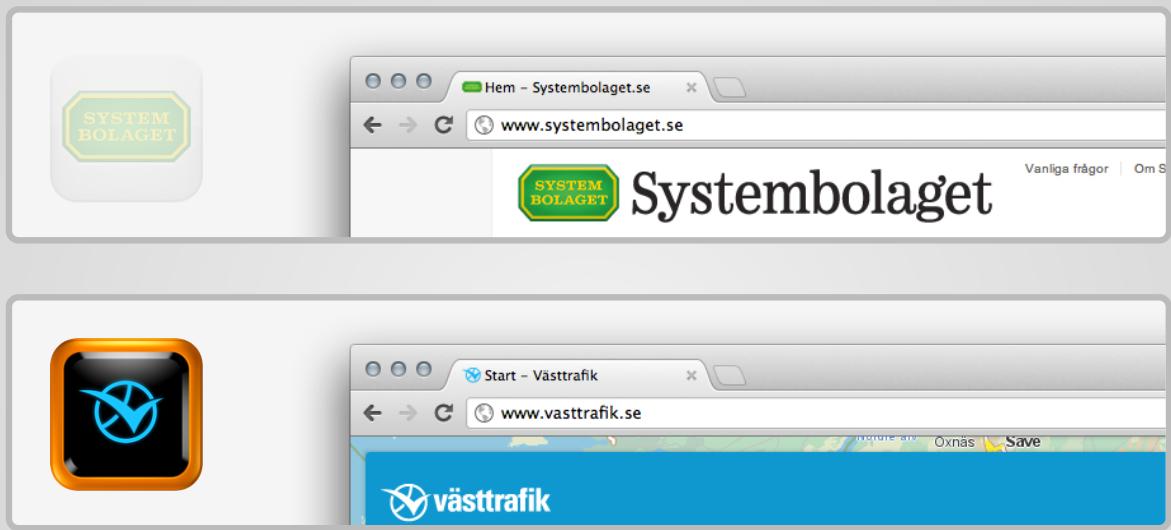
# Create an App or a Site?

- Will users use it every day?
- Should it talk to the users?
- Does it need device access?

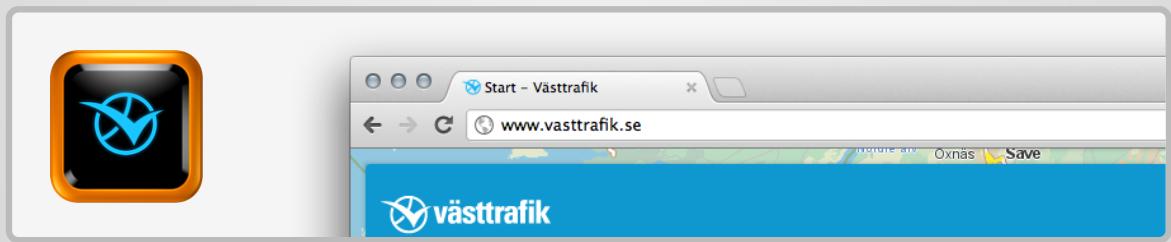
# Create an App or a Site?



# Create an App or a Site?

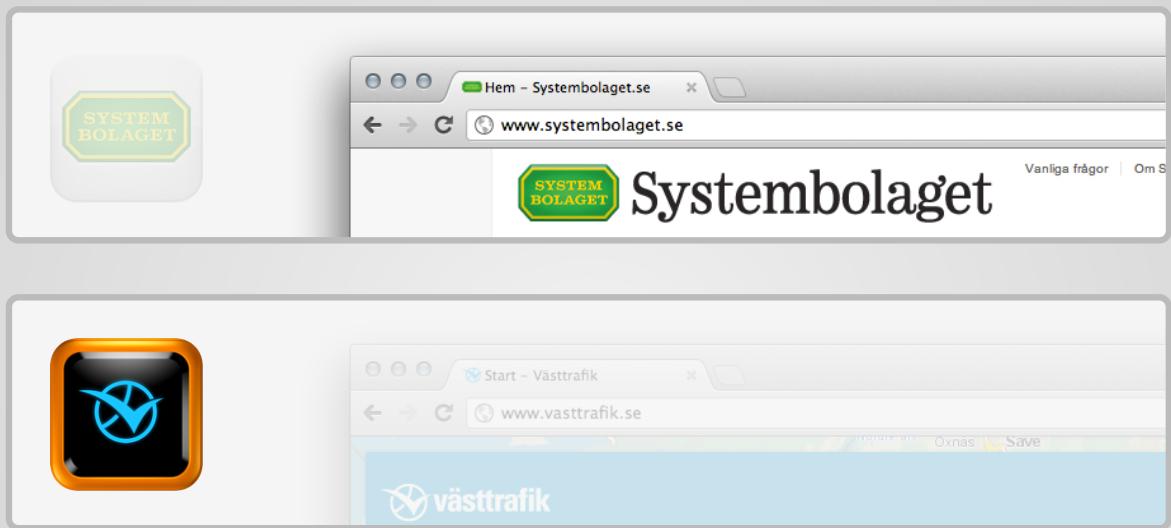


The image displays two side-by-side screenshots. On the left, there is a white rounded rectangle containing a green octagonal icon with the text "SYSTEM BOLAGET". On the right, there is a screenshot of a web browser window titled "Hem - Systembolaget.se". The browser address bar shows "www.systembolaget.se". The main content area of the browser displays the "Systembolaget" logo, which is identical to the one on the left, consisting of a green octagon with the text "SYSTEM BOLAGET". Below the logo, the word "Systembolaget" is written in a large, serif font. At the bottom right of the browser window, there are links for "Vanliga frågor" and "Om S".

The image displays two side-by-side screenshots. On the left, there is a white rounded rectangle containing a black square icon with an orange border. Inside the square is a blue circular logo featuring a stylized white 'V' shape. On the right, there is a screenshot of a web browser window titled "Start - Västtrafik". The browser address bar shows "www.vasttrafik.se". The main content area of the browser displays the "västtrafik" logo, which consists of a blue octagon with a white 'V' shape, followed by the word "västtrafik" in a white sans-serif font.

# Create an App or a Site?



The image displays two side-by-side screenshots illustrating the choice between creating a mobile application versus a website. On the left, a white rounded square contains the official logo for 'SYSTEM BOLAGET', which is a green octagonal badge with the words 'SYSTEM' and 'BOLAGET' stacked vertically. On the right, a screenshot of a web browser window shows the homepage for 'Systembolaget'. The browser title bar reads 'Hem - Systembolaget.se'. The address bar shows the URL 'www.systembolaget.se'. The main content area features the same green octagonal logo on the left and the word 'Systembolaget' in a large, serif font on the right. A navigation menu at the bottom includes links for 'Vanliga frågor' and 'Om S'.

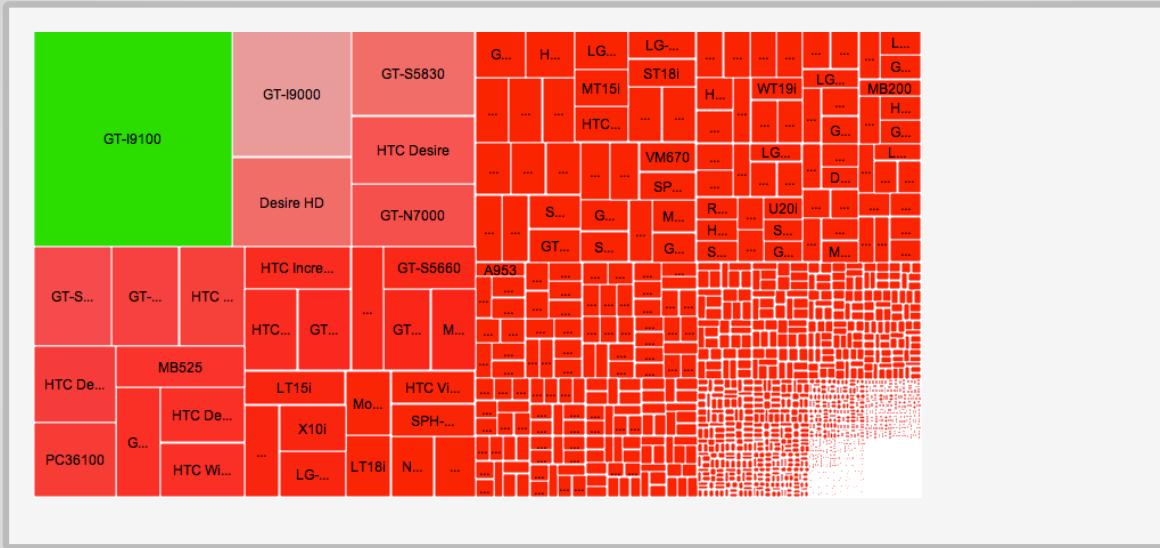
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The image displays two side-by-side screenshots illustrating the choice between creating a mobile application versus a website. On the left, a white rounded square contains the official logo for 'västtrafik', which is a black square with a blue circular checkmark icon. On the right, a screenshot of a web browser window shows the homepage for 'västtrafik'. The browser title bar reads 'Start - Västtrafik'. The address bar shows the URL 'www.vasttrafik.se'. The main content area features the 'västtrafik' logo at the top and several navigation links below it, including 'Öppna biljettsida', 'Öxnas', and 'Save'.

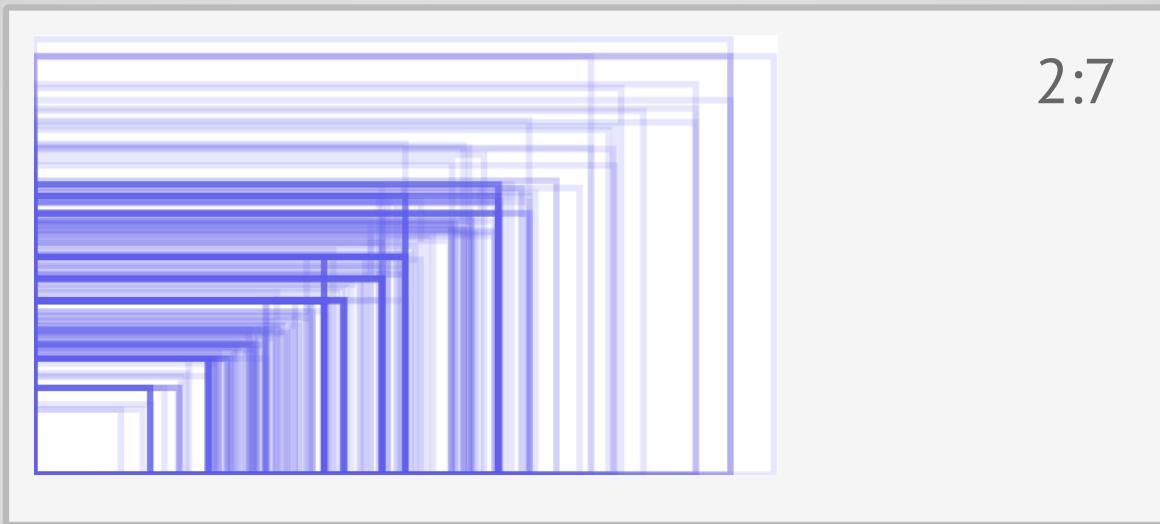
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# 3997 different Android devices



Source [opensignalmaps.com/reports/fragmentation.php](http://opensignalmaps.com/reports/fragmentation.php)

# Android screen resolutions



Source [opensignalmaps.com/reports/fragmentation.php](https://opensignalmaps.com/reports/fragmentation.php)

# Pixel density

img.png

img@2x.png

**Pixel density**

img.png

img@2x.png

# Pixel density

ldpi

mdpi

hdpi

xhdpi

img.png

img@2x.png

# Pixel density

ldpi

mdpi

hdpi

xhdpi

tvdpi

**Creating an app is...**

Creating an app is...  
**Not enough!**

# **Responsive Web Design**

Old concept...

# Responsive Web Design

Old concept...

# Responsive Web Design

...reinvented by Ethan Marcotte

A List Apart, issue 306, 2010

# Step 0.1 I know what I'm doing

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="utf-8">

    <!-- Don't zoom out, use the actual width -->
    <meta name="viewport" content="width=device-width">

    ...

```



## Step 0.2 Travel back in time

```
div {  
  width: 100%;  
}
```



## Step 0.2 Travel back in time



```
div {  
  width: 100%;  
  
  border: 4px solid black;  
  padding: 15px;  
}
```



## Step 0.2 Travel back in time

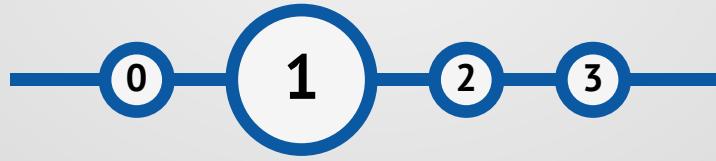


```
div {  
  width: 100%;  
  
  border: 4px solid black;  
  padding: 15px;  
}  
  
* {  
  -webkit-box-sizing: border-box;  
  -moz-box-sizing: border-box;  
  box-sizing: border-box;  
}
```

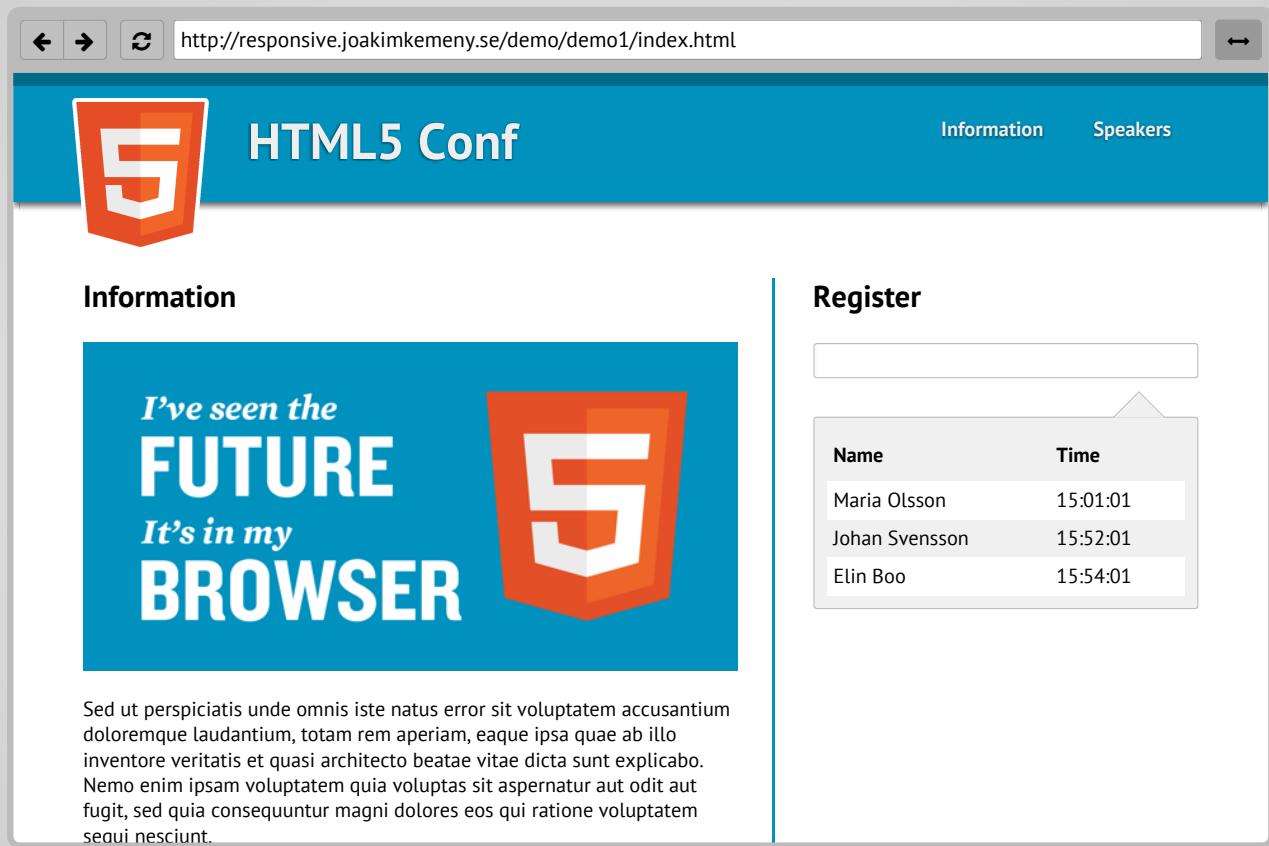
See [paulirish.com/2012/box-sizing-border-box-ftw](http://paulirish.com/2012/box-sizing-border-box-ftw)



# Flexible Grid



<http://responsive.joakimkemeny.se/demo/demo1/index.html>



The screenshot shows a responsive web page for "HTML5 Conf". The header features a large orange "5" icon and the text "HTML5 Conf". Navigation links for "Information" and "Speakers" are visible. The main content area contains a large blue banner with the text "I've seen the FUTURE It's in my BROWSER" and another orange "5" icon. A sidebar on the right is titled "Register" and lists three entries in a table:

Name	Time
Maria Olsson	15:01:01
Johan Svensson	15:52:01
Elin Boo	15:54:01

**Information**

*I've seen the*  
**FUTURE**  
*It's in my*  
**BROWSER**

Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam, eaque ipsa quae ab illo inventore veritatis et quasi architecto beatae vitae dicta sunt explicabo. Nemo enim ipsam voluptatem quia voluptas sit aspernatur aut odit aut fugit, sed quia consequuntur magni dolores eos qui ratione voluptatem sequui nesciunt.

**Register**

Name	Time
Maria Olsson	15:01:01
Johan Svensson	15:52:01
Elin Boo	15:54:01

[http://responsive...](http://responsive.com)

**HTML5 Cor...**

**Information**

*I've seen the*  
**FUTURE**  
*It's in my*  
**BROWSER**

Sed ut perspiciatis unde omnis iste natus error  
doloremque laudantium, totam rem aperiam, e  
inventore veritatis et quasi architecto beatae vi  
Nemo enim ipsam voluptatem quia voluptas sit  
fugit, sed quia consequuntur magni dolores eos  
seculi nesciunt.

# Creating a flexible grid

```
.wrapper {  
  
    width: 880px;  
}  
  
.content {  
    width: 546px;  
}  
  
aside {  
    width: 334px;  
}
```



# Creating a flexible grid

```
.wrapper {  
    max-width: 880px;  
    width: 95%; /* 880px */  
}  
  
.content {  
    width: 62.0454545%; /* 546px / 880px */  
}  
  
aside {  
    width: 37.9545455%; /* 334px / 880px */  
}
```



## Step 0.3 Use a CSS preprocessor

Variables

Functions

Operations

Nesting

Mixins

```
$blue: #3bbfce;  
$border: 1px solid $blue;  
$margin: 20px;  
  
nav {  
  color: darken($blue,  
10%);  
  
  margin: $margin / 2;  
}
```

```
ul {  
  li {  
    border-left: $border;  
    &:first-child {  
      border-left: 0;  
    }  
  }  
}
```



Sass

sass-lang.com

LESS

lesscss.org

## Step 0.3 Use a CSS preprocessor

Variables

Functions

Operations

Nesting

Mixins

```
$blue: #3bbfce;  
$border: 1px solid $blue;  
$margin: 20px;  
  
nav {
```

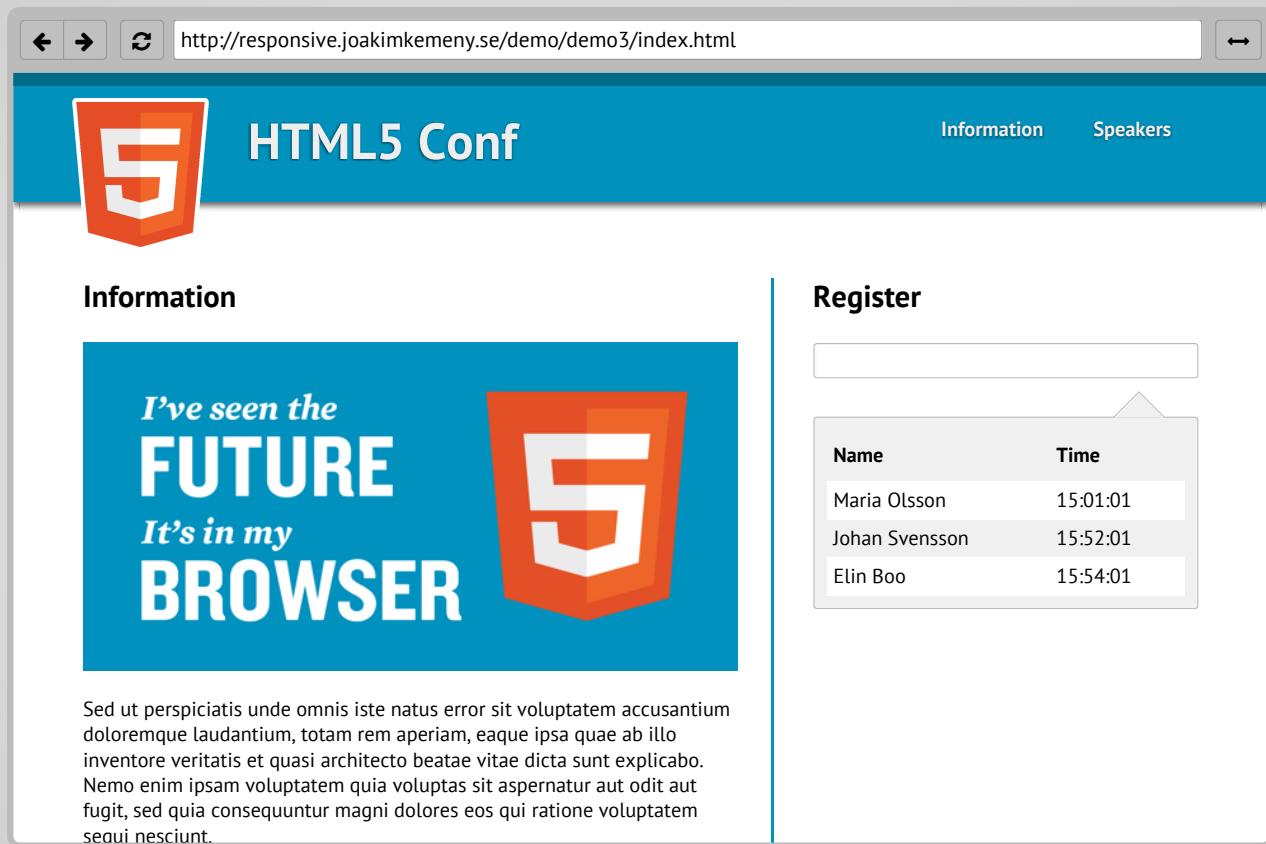
```
ul {  
    li {  
        border-left: $border;  
        &:first-child {  
            border-left: 0;
```

# Creating a flexible grid

```
.wrapper {  
    max-width: 880px;  
    width: 95%; /* 880px */  
  
.content {  
    width: percentage(546px / 880px);  
}  
  
aside {  
    width: percentage(334px / 880px);  
}  
}
```



<http://responsive.joakimkemeny.se/demo/demo3/index.html>



The screenshot shows a responsive web page for "HTML5 Conf". At the top, there's a header bar with a back/forward/refresh button, the URL, and a double-refresh icon. Below the header is a blue navigation bar with the "HTML5 Conf" logo on the left and "Information" and "Speakers" links on the right. The main content area has two columns. The left column, titled "Information", features a large blue banner with white text: "I've seen the FUTURE It's in my BROWSER" and a large orange "5" icon. The right column, titled "Register", contains a registration form with a text input field and a table showing three entries: Maria Olsson (15:01:01), Johan Svensson (15:52:01), and Elin Boo (15:54:01). The bottom of the page has a footer section with placeholder text.

# HTML5 Conf

## Information

I've seen the  
**FUTURE**  
It's in my  
**BROWSER**

## Register

Name	Time
Maria Olsson	15:01:01
Johan Svensson	15:52:01
Elin Boo	15:54:01

Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam, eaque ipsa quae ab illo inventore veritatis et quasi architecto beatae vitae dicta sunt explicabo. Nemo enim ipsam voluptatem quia voluptas sit aspernatur aut odit aut fugit, sed quia consequuntur magni dolores eos qui ratione voluptatem sequi nesciunt.

← → ⌂ http://responsiv...

The screenshot shows a mobile browser interface with a header bar at the top containing navigation icons and a URL. Below the header is a large blue header section for "HTML5 Conf". The header includes a stylized orange "5" logo, the text "HTML5 Conf", and two menu links: "Information" and "Speakers". The main content area is titled "Information" and features a large blue banner with white text that reads "I've seen the FUTURE It's in my BROWSER". To the right of the banner is a vertical sidebar with a title "Name" and a list of names: Maria Olsson, Johan Svensson, and Elin Boo. At the bottom of the content area is a footer with the Latin phrase "Sed ut perspiciatis unde omnis iste natus".

Information Register

I've seen the  
**FUTURE**  
It's in my  
**BROWSER**

Name

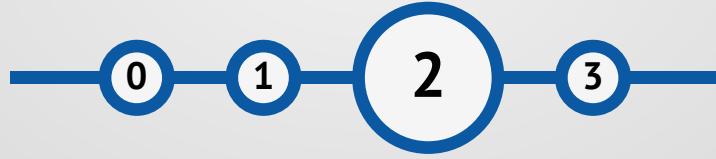
Maria  
Olsson

Johan  
Svensson

Elin Boo

Sed ut perspiciatis  
unde omnis iste natus

# Flexible images



# Creating flexible images

```
img, embed, object, video {  
    max-width: 100%;  
}  
  
.ie6 {  
    img, object {  
        width: 100%;  
    }  
}
```

Great tool [modernizr.com](http://modernizr.com)



http://responsive.joakimkemeny.se/demo/demo4/index.html



# HTML5 Conf

Information      Speakers

## Information

*I've seen the*  
**FUTURE**  
*It's in my*  
**BROWSER**

## Register

Name	Time
Maria Olsson	15:01:01
Johan Svensson	15:52:01
Elin Boo	15:54:01

Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam, eaque ipsa quae ab illo inventore veritatis et quasi architecto beatae vitae dicta sunt explicabo. Nemo enim ipsam voluptatem quia voluptas sit aspernatur aut odit aut fugit, sed quia consequuntur magni dolores eos qui ratione voluptatem sequi nesciunt.

← → ⌂ http://responsive... ↵



The screenshot shows a mobile browser displaying the "HTML5 Conf" website. The header features the "HTML5 Conf" logo and navigation links for "Information" and "Speakers". The main content area is divided into two sections: "Information" on the left and "Register" on the right. The "Information" section contains a quote from Steve Jobs: "I've seen the FUTURE It's in my BROWSER" with a large orange "5" icon. The "Register" section shows a list of names: Maria Olsson, Johan Svensson, and Elin Boo.

# HTML5 Conf

Information   Speakers

## Information

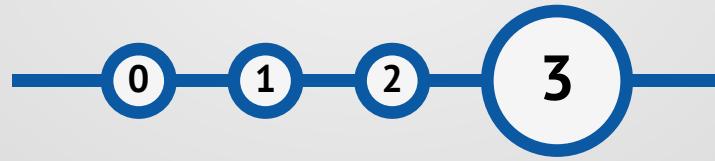
I've seen the  
**FUTURE**  
It's in my  
**BROWSER** 

Sed ut perspiciatis  
unde omnis iste natus  
error sit voluptatem  
accusantium  
doloremque  
laudantium, totam  
rem aperiam, eaque  
ipsa quae ab illo  
inventore veritatis et  
quasi architecto  
beatae vitae dicta sunt

## Register

Name
Maria Olsson
Johan Svensson
Elin Boo

# Media Queries



# Using Media Queries

```
@media screen and (max-width: 480px) {  
    body {  
        background-color: red;  
    }  
}  
  
@media screen and (orientation: landscape) ...  
@media screen and (-webkit-min-device-pixel-ratio: 2) ...
```



# Where are the breakpoints?

<b>320px</b>	Phones in portrait mode
<b>480px</b>	Phones in landscape mode
<b>600px</b>	Smaller tablets in portrait mode
<b>768px</b>	Larger tablets in portrait mode
<b>1024px</b>	Larger tablets in landscape mode & smaller laptops
<b>1200px</b>	Widescreen displays



# Where are the breakpoints?

200 – 4096



# Using Media Queries

```
#content {  
    .content {  
        float: left;  
        padding-right: 30px;  
        width: percentage(546px / 880px);  
    }  
    aside {  
        float: right;  
        padding-left: 30px;  
        width: percentage(334px / 880px);  
    }  
  
    @media screen and (max-width: 599px) {  
        .content {  
            float: none;  
            padding: 0 0 20px 0;  
            width: 100%;  
        }  
        aside {  
            float: none;  
        }  
    }  
}
```

```
width: percentage(334px / 880px);  
}  
  
@media screen and (max-width: 599px) {  
    .content {  
        float: none;  
        padding: 0 0 20px 0;  
        width: 100%;  
    }  
    aside {  
        float: none;  
        padding: 20px 0 0 0;  
        width: 100%;  
    }  
}
```



http://responsive.joakimkemeny.se/demo/demo5/index.html



# HTML5 Conf

Information      Speakers

## Information

*I've seen the*  
**FUTURE**  
*It's in my*  
**BROWSER**

## Register

Name	Time
Maria Olsson	15:01:01
Johan Svensson	15:52:01
Elin Boo	15:54:01

Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam, eaque ipsa quae ab illo inventore veritatis et quasi architecto beatae vitae dicta sunt explicabo. Nemo enim ipsam voluptatem quia voluptas sit aspernatur aut odit aut fugit, sed quia consequuntur magni dolores eos qui ratione voluptatem sequi nesciunt.

← → ⌂ http://responsiv...



The screenshot shows a mobile browser displaying the "HTML5 Conf" website. The header features a large orange "5" icon and the text "HTML5 Conf". Below the header are two buttons: "Information" and "Speakers". The main content area is titled "Information" and contains a quote: "I've seen the FUTURE It's in my BROWSER" followed by another orange "5" icon. A large amount of placeholder Latin text (Lorem ipsum) is at the bottom.

## Information

*I've seen the*  
**FUTURE**  
*It's in my*  
**BROWSER**

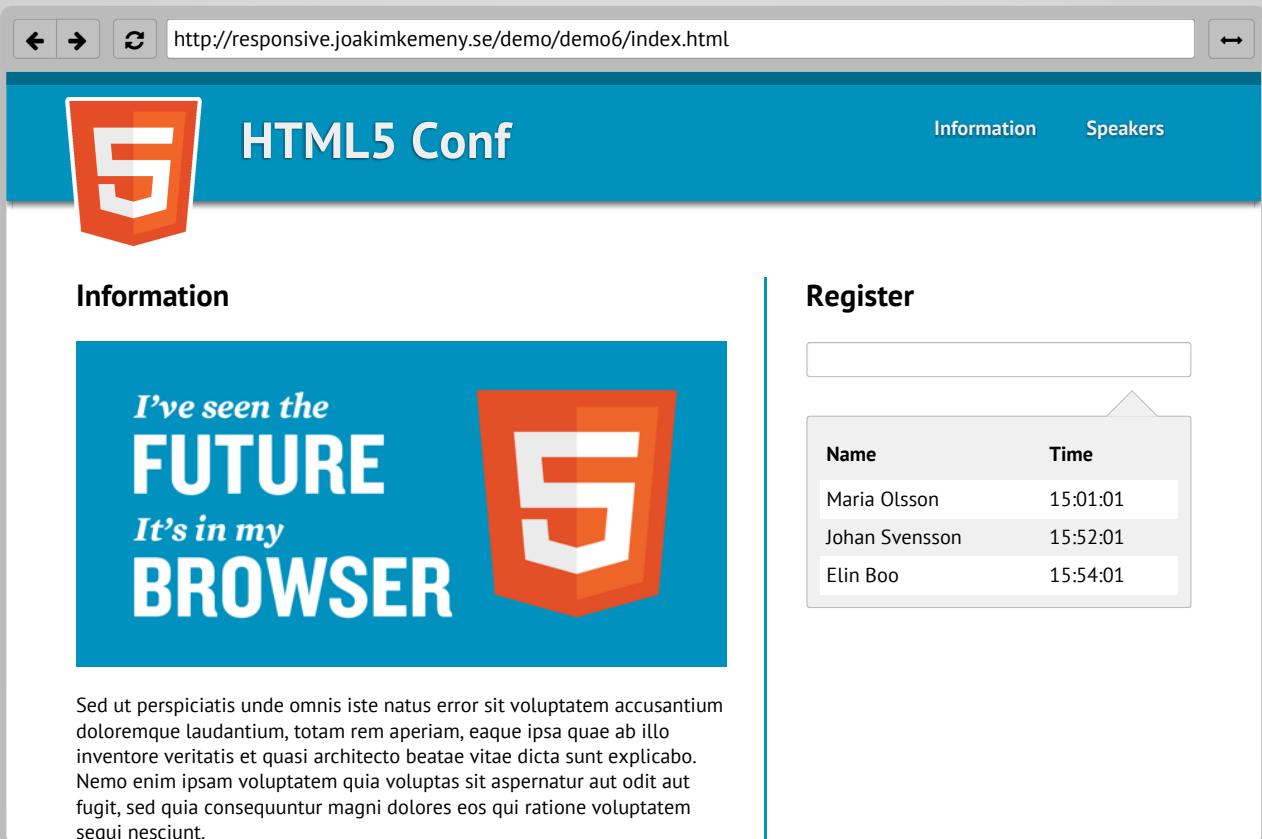
Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam, eaque ipsa quae ab illo inventore veritatis et quasi architecto beatae vitae dicta sunt explicabo. Nemo enim ipsam voluptatem quia voluptas sit aspernatur aut odit aut fugit, sed quia consequuntur magni dolores eos qui ratione voluptatem sequi.

# Using Media Queries

```
#header {  
    h1 {  
        float: left;  
        margin-left: 130px;  
  
        @media screen and (max-width: 767px) {  
            margin-left: 160px;  
        }  
  
        @media screen and (max-width: 479px) {  
            float: none;  
            margin-left: 0;  
        }  
    }  
  
    nav {  
        float: right;  
  
        @media screen and (max-width: 767px) {  
            clear: left;  
        }  
    }  
}
```

```
margin-left: 0;  
}  
}  
  
nav {  
    float: right;  
  
    @media screen and (max-width: 767px) {  
        clear: left;  
        float: left;  
        margin-left: 160px;  
        a {  
            background: rgba(255, 255, 255, 0.40);  
        }  
    }  
  
    @media screen and (max-width: 479px) {  
        float: none;  
        margin-left: 0;  
    }  
}
```

<http://responsive.joakimkemeny.se/demo/demo6/index.html>



The screenshot shows a responsive web page for "HTML5 Conf". The header features a large orange "5" icon and the text "HTML5 Conf". Navigation links for "Information" and "Speakers" are visible. The main content area contains a blue banner with the text "I've seen the FUTURE It's in my BROWSER" and another "5" icon. A sidebar on the right is titled "Register" and lists three entries in a table.

Name	Time
Maria Olsson	15:01:01
Johan Svensson	15:52:01
Elin Boo	15:54:01

Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam, eaque ipsa quae ab illo inventore veritatis et quasi architecto beatae vitae dicta sunt explicabo. Nemo enim ipsam voluptatem quia voluptas sit aspernatur aut odit aut fugit, sed quia consequuntur magni dolores eos qui ratione voluptatem sequi nesciunt.

← → ⌂ http://responsiv...

# HTML5 Conf

Information Speakers

## Information

*I've seen the  
FUTURE  
It's in my  
BROWSER*



Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam, eaque ipsa quae ab illo inventore veritatis et quasi architecto beatae vitae dicta sunt explicabo. Nemo enim ipsam voluptatem quia voluptas sit aspernatur aut odit aut fugit, sed quia consequuntur magni dolores eos qui ratione voluptatem sequi nesciunt.

http://responsive.joakimkemeny.se/demo/demo7/index.html



# HTML5 Conf

Information      Speakers

## Information

*I've seen the*  
**FUTURE**  
*It's in my*  
**BROWSER**



Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam, eaque ipsa quae ab illo inventore veritatis et quasi architecto beatae vitae dicta sunt explicabo. Nemo enim ipsam voluptatem quia voluptas sit aspernatur aut odit aut fugit, sed quia consequuntur magni dolores eos qui ratione voluptatem sequi nesciunt.

## Register

Name	Time
Maria Olsson	15:01:01
Johan Svensson	15:52:01
Elin Boo	15:54:01

← → ⌂ http://responsiv... ⌂

# HTML5 Conf

Information Speakers ☰

## Information

*I've seen the  
FUTURE  
It's in my  
BROWSER*



Sed ut perspiciatis unde omnis iste natus error sit voluptatem accusantium doloremque laudantium, totam rem aperiam, eaque ipsa quae ab illo inventore veritatis et quasi architecto beatae vitae dicta sunt explicabo. Nemo enim ipsam voluptatem quia voluptas sit aspernatur aut odit aut fugit, sed quia consequuntur magni dolores eos qui ratione voluptatem sequi nesciunt.

← → ⌂ http://responsive... ⌂

# HTML5 Conf

Information Speakers ☰

## Register

Name	Time
Maria Olsson	15:01:01
Johan Svensson	15:52:01
Elin Boo	15:54:01

aperiam, eaque ipsa quae ab illo inventore  
veritatis et quasi architecto beatae vitae  
dicta sunt explicabo. Nemo enim ipsam  
voluptatem quia voluptas sit aspernatur aut  
odit aut fugit, sed quia consequuntur magni  
dolores eos qui ratione voluptatem sequi  
nesciunt.

# Challenges

Images

# Challenges

Great guide [css-tricks.com/which-responsive-images-solution-should-you-use](https://css-tricks.com/which-responsive-images-solution-should-you-use)

Images

Ads

# Challenges

Performance

Get the data [lukew.com/ff/entry.asp?1681](http://lukew.com/ff/entry.asp?1681)

# **Conclusions**

THE way to create sites 2013...

# Conclusions

THE way to create sites 2013...

# Conclusions

...but it doesn't always replace apps

We are back in 1997

# Conclusions

We are back in 1997

# Conclusions

Framework

Twitter

You should checkout [twitter.github.com/bootstrap](https://twitter.github.com/bootstrap) and follow @brad\_frost

# Responsive Web Design

## Thank you for coming!



**Joakim Kemeny**  
@joakimkemeny  
[github.com/joakimkemeny](https://github.com/joakimkemeny)

