





**MALMÖ  
UNIVERSITET**

DA156A

# Introduktion till webbutveckling

HT19

7.5hp Anton Tibblin

# Kursintroduktion

- Vilka är med i kursen?
- Syfte
- Lärandemål
- Upplägg
- Innehåll
- Överblick



# Vilka lärare är med i kursen?

- Lärare
  - Anton Tibblin
- Assisterter
  - Jesper Pamp
  - Zandra Nilsson



# Läsperiod 1: HT19

**DA156A**  
**Introduktion till webbutveckling**

**DA154A**  
**Introduktion till datavetenskap**



[Sammanfattning](#)

[Kursplan](#)

[Kontakt](#)

## SAMMANFATTNING

### BEHÖRIGHETSKRAV

Grundläggande behörighet + Engelska B.

Meritpoäng inför urval enligt Områdesbehörighet 6/A6

# Kursplan

<http://edu.mah.se/DA156A>

# Syfte

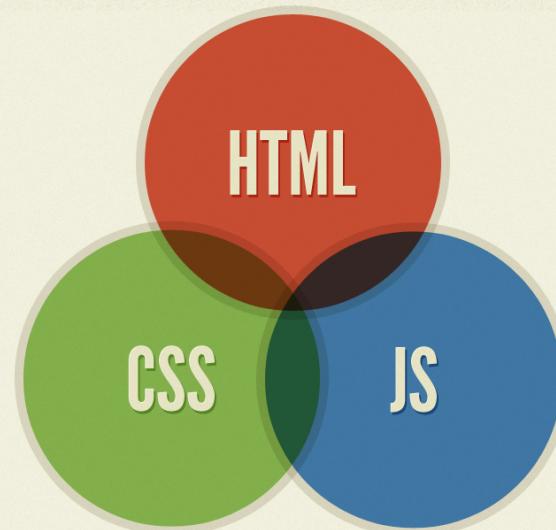
- Kursen syftar till att introducera fundamentala **koncept** och **tekniker** som ingår i modern **webbutveckling**.
- Studenten ska ges praktiska färdigheter i utveckling av **webbplatser**, liksom en teoretisk bakgrund till de **begränsningar** och **möjligheter** som ges av aktuella standarder och platfformar.
- Studenten ska också utveckla en inledande förståelse av hur **användarbehov** och -**beteende** kan styra utvecklingen av ett gränssnitt.

# Tekniker i modern webbutveckling



<http://business-marketing-tips.com/wp-content/uploads/2013/07/Responsive-Web-Design1.jpg>

# Praktiska färdigheter



<http://joelglovier.com/img/wallpaper/power-3.jpg>

# Användarbehov



# Lärandemål

Efter genomången kurs ska studenten kunna...

# Kunskap och förståelse

- förklara begreppet **representation** och dess betydelse inom informationsteknologin
- förklara hur begreppen **information**, **presentation** och **beteende** förhåller sig till komponenterna av en webbsida och varandra, samt varför begreppen brukar särskiljas
- beskriva och exemplifiera kring **standards** roll inom webbutveckling och till viss del datavetenskap

# Färdighet och förmåga

- **konstruera webbsidor** baserat på för området aktuella standarder, med speciell hänsyn till **tillgänglighet** och **kompatibilitet**, samt viss hänsyn till **användbarhet**
- beskriva en resulterande webbsida baserat på källkod skriven i **HTML**, **CSS** och enklare **JavaScript**
- motivera **användningsmässiga** ställningstagande vid utformning av en webbsida

# Värderingsförmåga och förhållningssätt

- diskutera på ett problematiserande och reflekterande vis, hur webbutvecklare kan förhålla sig till **standarder, målplattformer och målgrupper**.

# Allmän kursinfo

- 10 veckor
  - 12 föreläsningar
  - 5 labbuppgifter
  - 6 labbtillfällen
- 
- 3 inlämningsuppgifter
  - 1 tentamen



# En typisk vecka

- 1-2 föreläsningar
- 1 laborationstillfälle
- Aktiviteter (laborationer/uppgifter)



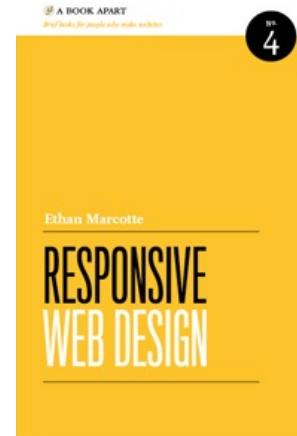
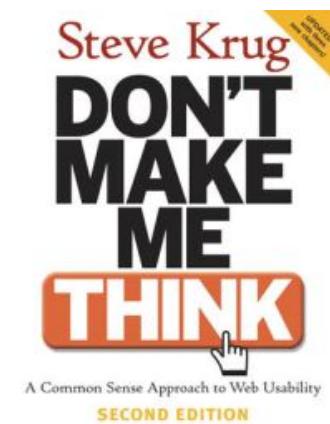
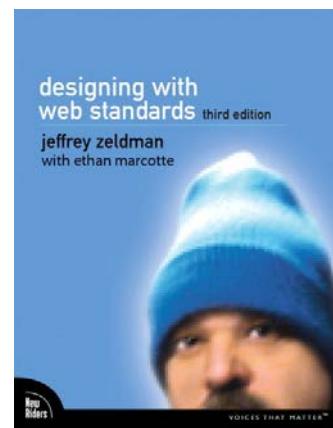
# Moment i kursen

Moment	Betygsskala	Högskolepoäng
Inlämningsuppgifter	UG	3,5
Skriftlig tentamen	UV	4

# Laborationer

- "Learning by doing"
- Inte examinerande – men ett mycket viktigt tillfälle att lära sig kursens mål
- Labbtider med handledning – 2 grupper
- Ger **0.5p** per redovisad laboration till tentan

# Kurslitteratur



# Kurslitteratur (lista)

- Kurslitteratur:
  - Duckett, Jon: HTML and CSS: Design and Build Websites, JOHN WILEY SONS, 2014
- Referenslitteratur:
  - Marcotte, Ethan: Responsive Web Design, A Book Apart, 2011
  - Krug, Steve: Don't Make Me Think!, Pearson Professional Education, 2nd ed., 2005
  - Lawson, Bruce och Remy Sharp: Introducing HTML5, New Riders Press, 2nd ed., 2011
  - Zeldman, Jeffrey: Designing with Web Standards, New Riders Press, 3rd ed., 2009

da156a.ia-mau.se

Vår kurswebbplats

# Planering

<http://www.da156a.ia-mau.se/plan.php>

?

# "Internet är en fluga"

- Ines Junéa Uusmann (kommunikationsminister, 1996)

# 2019 *This Is What Happens In An Internet Minute*



# WHAT IF IT TOLD YOU



THAT THE WORLD WIDE WEB AND  
THE INTERNET IS NOT THE SAME?

Internet och Webben är inte  
samma sak

Viktiga begrepp att hålla isär











<http://www.viva>

Webben – vad har hänt?

När började ni använda webben?



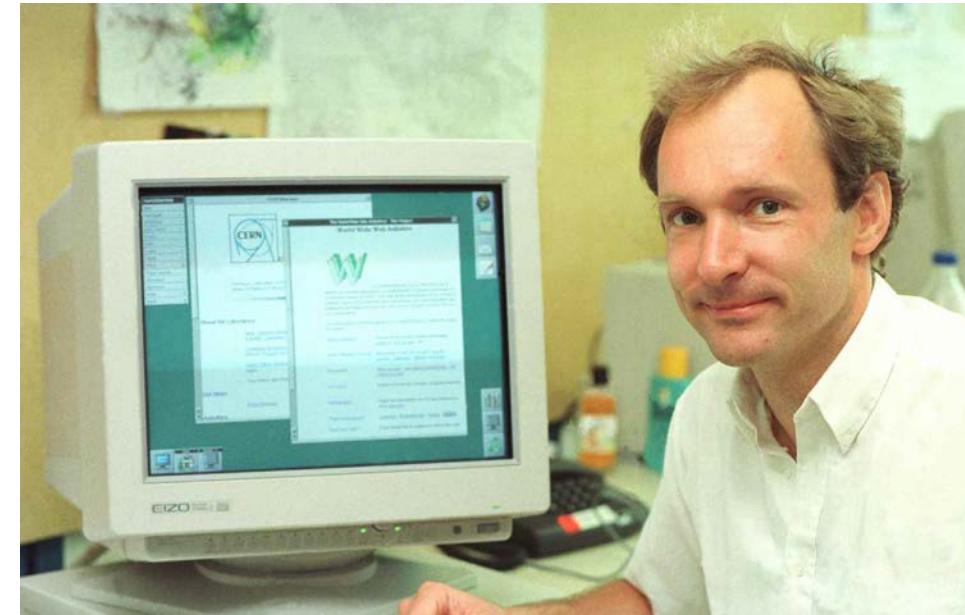
# Tim Berners-Lee

- Tidigt 90-tal utvecklades standarderna
  - HTML
  - HTTP
- Målet var att genom länkar
  - Ge möjlighet att få **tillgång** till information var som helst
  - Möjlighet att dela **information**



# Tidigt 90-tal

- Textbaserade webbsidor, en enda kolumn
- Världens första webbläsare
- World Wide Web Consortium(W3C)



# Hur såg webbsidorna ut?

## World Wide Web

The WorldWideWeb (W3) is a wide-area [hypermedia](#) information retrieval initiative aiming to give universal access to a large universe of documents.

Everything there is online about W3 is linked directly or indirectly to this document, including an [executive summary](#) of the project, [Mailing lists](#) , [Policy](#) , November's [W3 news](#) , [Frequently Asked Questions](#) .

### What's out there?

Pointers to the world's online information, [subjects](#) , [W3 servers](#), etc.

### Help

on the browser you are using

### Software Products

A list of W3 project components and their current state. (e.g. [Line Mode](#) ,[X11 Viola](#) ,[NeXTStep](#) ,  
[Servers](#) ,[Tools](#) ,[Mail robot](#) ,[Library](#) )

### Technical

Details of protocols, formats, program internals etc

### Bibliography

Paper documentation on W3 and references.

### People

A list of some people involved in the project.

### History

A summary of the history of the project.

### How can I help ?

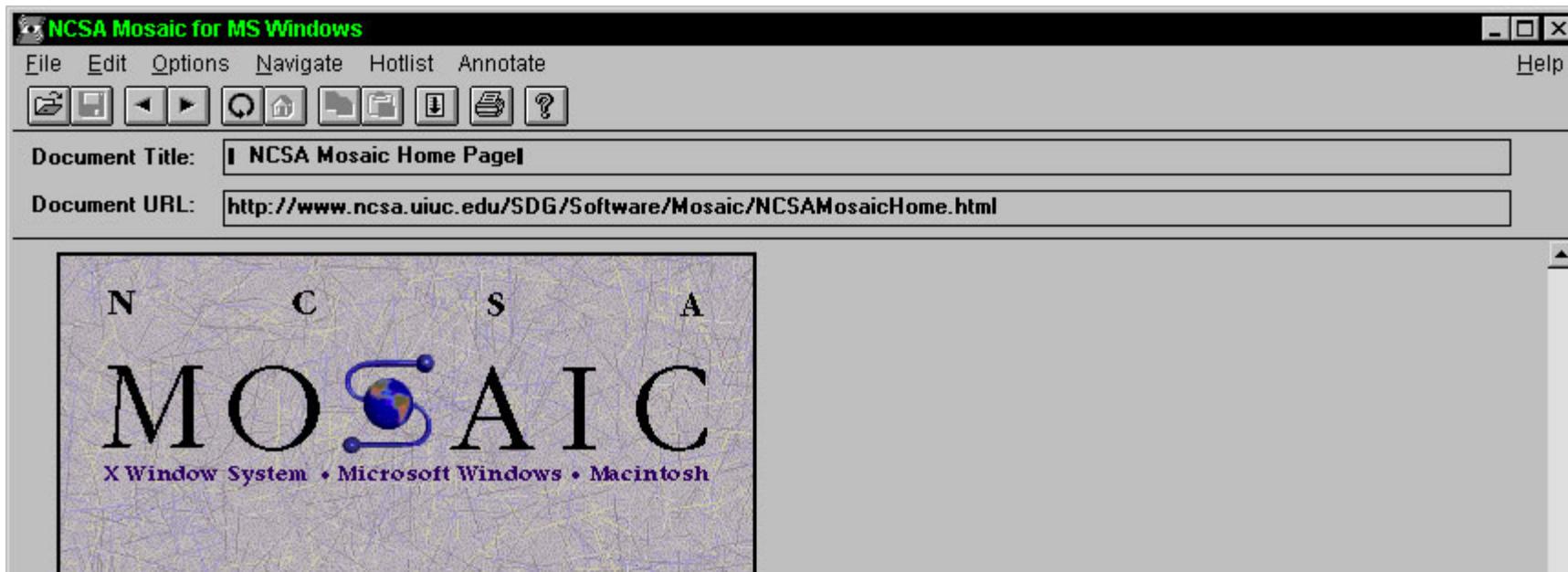
If you would like to support the web..

### Getting code

Getting the code by [anonymous FTP](#) , etc.

[http://www.newscientist.com/data/images/ns  
/cms/dn18158/dn18158-1\\_708.jpg](http://www.newscientist.com/data/images/ns/cms/dn18158/dn18158-1_708.jpg)

# Mosaic – Tjoho bilder!



Welcome to NCSA Mosaic, an Internet information browser and World Wide Web client. NCSA Mosaic was developed at the National Center for Supercomputing Applications at the University of Illinois in --> Urbana-Champaign. NCSA Mosaic software is copyrighted by The Board of Trustees of the University of Illinois (UI), and ownership remains with the UI.

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Jan '97

The Software Development Group at NCSA has worked on NCSA Mosaic for nearly four years and we've learned a lot in the process. We are honored that we were able to help bring this technology to the masses and appreciated all the support and feedback we have received in return. However, the time has come for us to concentrate our limited resources in other areas of interest and development on Mosaic is complete.  
<http://www.nsf.gov/od/lpa/news/03/images/mosaic.6beta.jpg>

All information about the Mosaic project is available from the homepages.

# Mitten av 90-tal

- Layout (genom tabell) strukturerar upp webbsidorna
- Webbsidorna har flera kolumner
- JavaScript (Mocha) introduceras
- Animerad text, skrollande text, GIF-bilder

# Hur såg webbsidorna ut?

**meme pool**  
netizens arrest

[ recent ] [ Search ] [ archives by Date | Subject | Author ]

Saturday  
Oct 27, 2012

Perhaps you want to see edgy, "hardcore gamer" videos set to dubstep tracks ... of [forklift](#), [truck](#), [farming](#), or [train](#) simulators. Afterwards, clear your palate and cleanse your mind with the [street cleaning](#) or [demolition](#) simulators.  
to [Games](#) by [isosceles](#)

Monday  
Oct 8, 2012

Despite starting off as a [joke mocking critical theory](#), the [Swole Acceptance](#) movement quickly realized that there was [legitimate](#) grievance against [weak privilege](#). From being groped to being called meatheads to being accused of being drug users, the so-called [swole](#), be they [cisswole](#) or [transswole](#), have realized the joke is more serious than they thought.

Accompanying this is another joke, a Discordianesque "religion" called [Brodinism](#), which is acknowledged as a joke but still used as a source of wisdom and solidarity. So, to sum up: Swole Acceptance is not a joke, except when it is; and Brodinism is a joke, except when it is not.  
to [Health](#) by [isosceles](#)

Sunday  
Oct 7, 2012

*"From Varka's humble bedroom lab through to a pretty substantial and very busy industrial unit in Phoenix, [Bad Dragon](#) has remained dedicated to producing the [finest](#) fantasy-themed [adult toys](#) money can buy."*

It seems only natural that a place that would offer hypothetical experiences with [cockatrices](#), [gryphons](#) and [dragons](#) would operate out of a city named after yet another mythological beast.  
to [Sex](#) by [isosceles](#)

Thursday  
Oct 4, 2012

[Harry Potter and the Methods of Rationality](#); a preposterously long fanfic covering methods of rationality.  
to [Science](#) by [isosceles](#)

Sunday  
Sep 23, 2012

Attention fellow documentarians of the horrifying, yet fascinating recesses of Brony subculture. There are far worse things than [fluffy ponies](#). There are [fat ponies](#), pony [thread simulators](#), and [fat pony thread simulators](#).  
to [Zoology](#) by [isosceles](#)

Apparently [images](#) of [pregnant](#) women eating [salad](#) is a [thing](#). It might finally replace [women laughing alone with salad](#).  
to [Food](#) by [isosceles](#)

# 1995 - Altavista

**digital**

 **Search** the Web ▾ and Display the Results in Standard Form ▾

Tip: To find an old friend or information about someone, try: [Santa Claus](#) or "Santa Claus"  
Using a capital letter ensures that only that capitalization will be found.

**ALTAVISTA**  
AltaVista gives you access to the largest Web index: 30 million pages found on 275,600 servers, and four million articles from 14,000 Usenet news groups. It is accessed over 20 million times per weekday.

**NEWS FROM ALTAVISTA**  
AltaVista Search is **your** favorite search service! Over 2.5 billion hits to date, and a top ten rating from [100 Hot Web Sites](#).  
Mile High Tower rises in Cyberspace. [AltaVista ForumForum](#) is open for business!

POWERED BY [DIGITAL UNIX](#), [DIGITAL ALPHA](#) AND [ALTAVISTA SEARCH SOFTWARE](#)

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[AltaVista Software](#)  
\*\*\* Check out our NEW [Australian Mirror Site](#) \*\*\*

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# 1995 - Amazon



**Welcome to Amazon.com  
Books!**

*One million titles,  
consistently low prices.*

(If you explore just one thing, make it our personal notification service. We think it's very cool!)

**SPOTLIGHT! -- AUGUST 16TH**  
These are the books we love, offered at Amazon.com low prices. The spotlight moves **EVERY** day so please come often.

**ONE MILLION TITLES**  
Search Amazon.com's [million title catalog](#) by author, subject, title, keyword, and more... Or take a look at the [books we recommend](#) in over 20 categories... Check out our [customer reviews](#) and the [award winners](#) from the Hugo and Nebula to the Pulitzer and Nobel... and [bestsellers](#) are 30% off the publishers list...

**EYES & EDITORS, A PERSONAL NOTIFICATION SERVICE**  
Like to know when that book you want comes out in paperback or when your favorite author releases a new title? Eyes, our tireless, automated search agent, will send you mail. Meanwhile, our human editors are busy previewing galleys and reading advance reviews. They can let you know when especially wonderful works are published in particular genres or subject areas. Come in, [meet Eyes](#), and have it all explained.

**YOUR ACCOUNT**  
Check the status of your orders or change the email address and password you have on file with us. Please note that you **do not** need an account to use the store. The first time you place an order, you will be given the opportunity to create an account.

# 1995 - Ebay

**Auction Web**

[Menu] [\[Listings\]](#) [\[Buyers\]](#) [\[Sellers\]](#) [\[Search\]](#) [\[Contact/Help\]](#) [\[Site Map\]](#)

---

Welcome to today's online marketplace...

...the market that brings buyers and sellers together in an honest and open environment...

Welcome to our community. I'm glad you found us. AuctionWeb is dedicated to bringing together buyers and sellers in an honest and open marketplace. Here, thanks to our [auction format](#), merchandise will always fetch its market value. And there are plenty of great deals to be found!

[Take a look at the listings](#). There are always several hundred auctions underway, so you're bound to find something interesting.

If you don't find what you like, take a look at our **Personal Shopper**. It can help you search all the listings. Or, it can keep an eye on new items as they are posted and let you know when something you want appears. If you want to let everyone know what you want, post something on our [wanted page](#).

If you have something to **sell**, start your auction instantly.

Welcome to eBay's AuctionWeb.

**Join our community.** Become a registered user. Registered users receive [additional benefits](#) such as daily updates and the right to participate in our user feedback forum and the bulletin board.

Please [read on](#) about the AuctionWeb vision...

---

From the founder: I launched eBay's AuctionWeb on Labor Day, 1995. Since then, this site has become more popular than I ever

# Sent 90-tal

- Flash introducerades
- En kombination av flash och HTML-kod byggde upp webbsidorna
- Flashbaserad navigation
- (massor av onödiga animationer)



# Hur såg webbsidorna ut?



Dole★'96  <http://www.dolekemp96.org>

More opportunities. Smaller government. Stronger and safer families

[Home](#) | [Register](#) | [Volunteer](#) | [Donations](#)

[About the Team](#) | [Dole Interactive](#) | [Newswires](#) | [The Dole Agenda](#) | [On the Campaign Trail](#) | [Get Involved](#)

Originally Paid for by Dole/Kemp '96 Campaign Committee  
Original Web Design by [Page Internet Campaigns](#)  
To Learn more about Bob Dole, Please Visit the [Dole Institute](#)  
This Web Site is Presented for Educational Purposes by [4Presidents.org](#)

# 1998 - Google

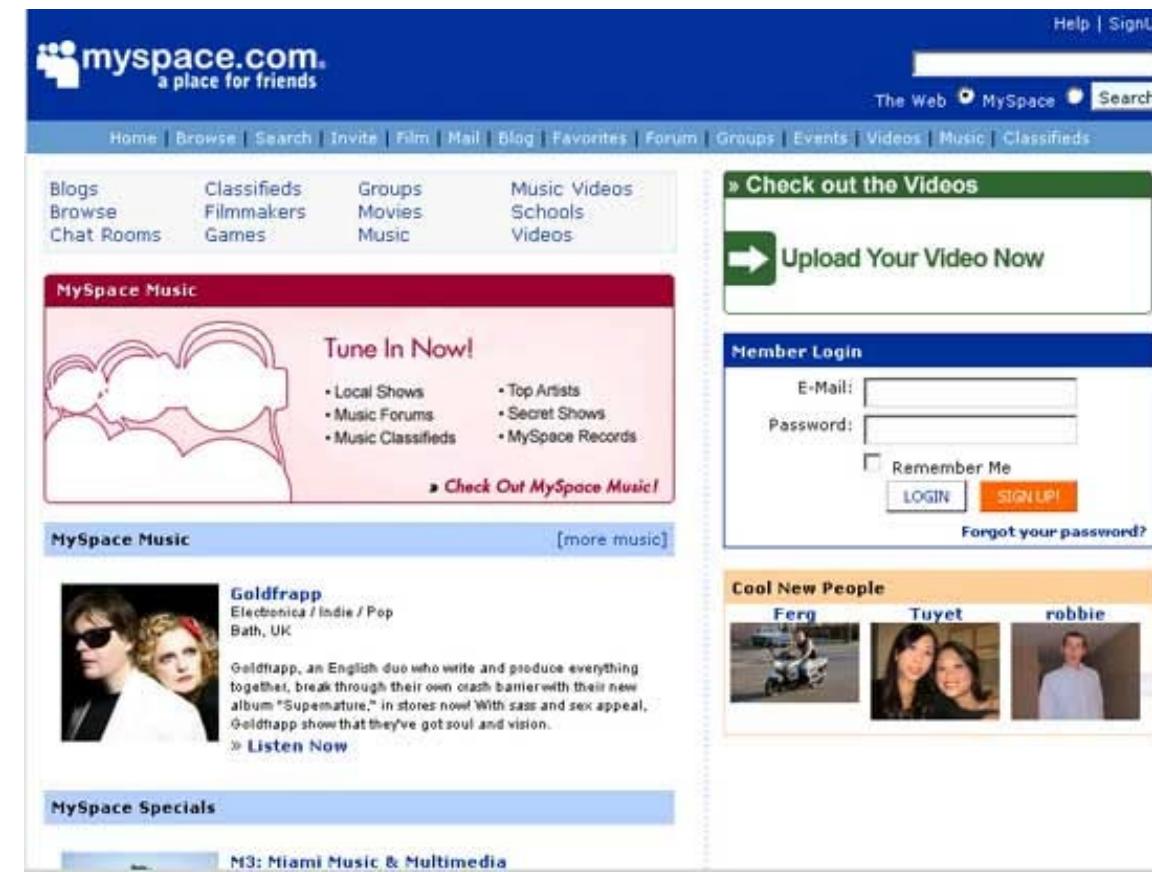


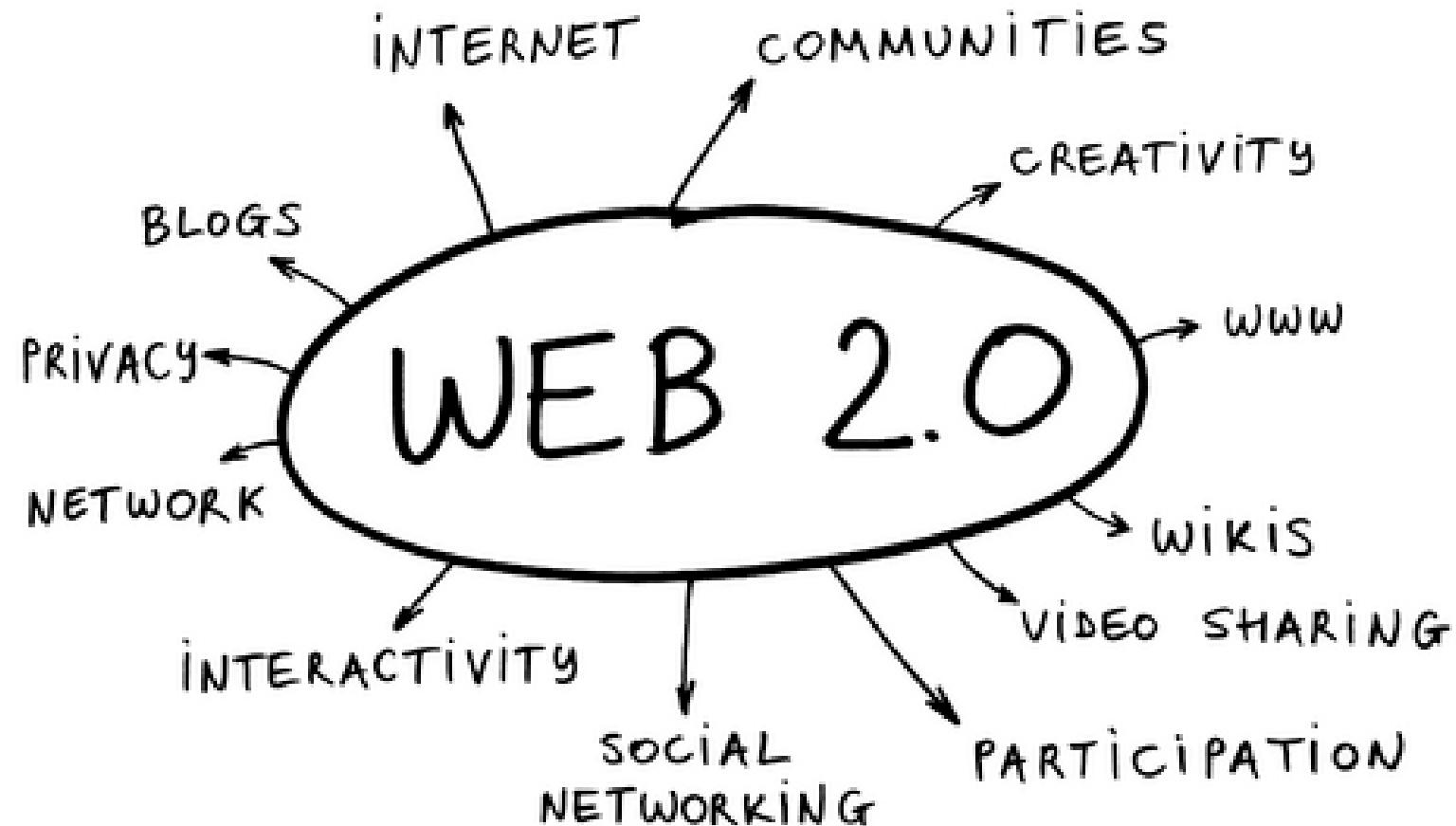
# 1999 - Paypal



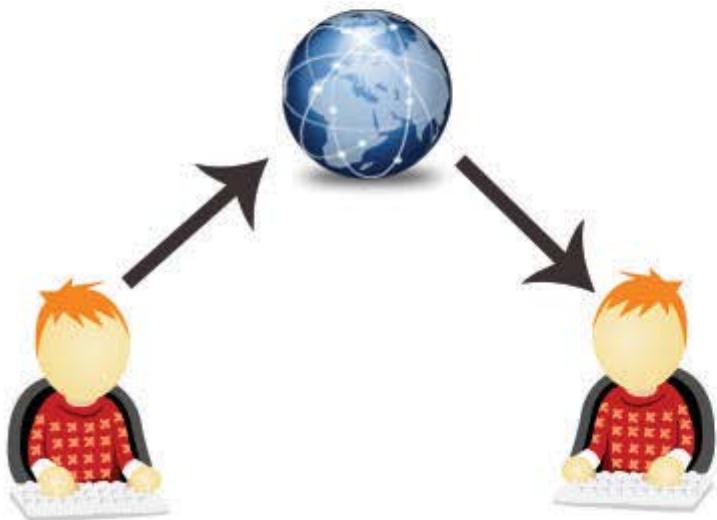
# Tidigt => mitten av 2000-tal

- CSS introduceras
- JavaScript tar över allt mer på webben
- Formulär på webben

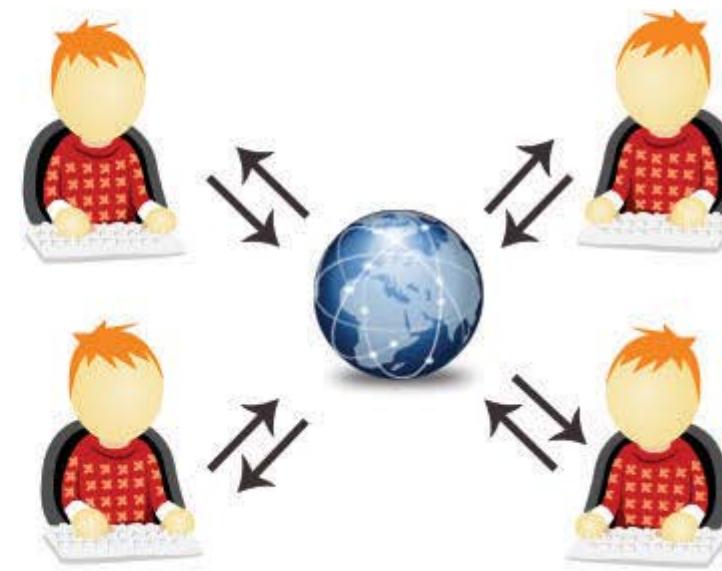




## Web 1.0



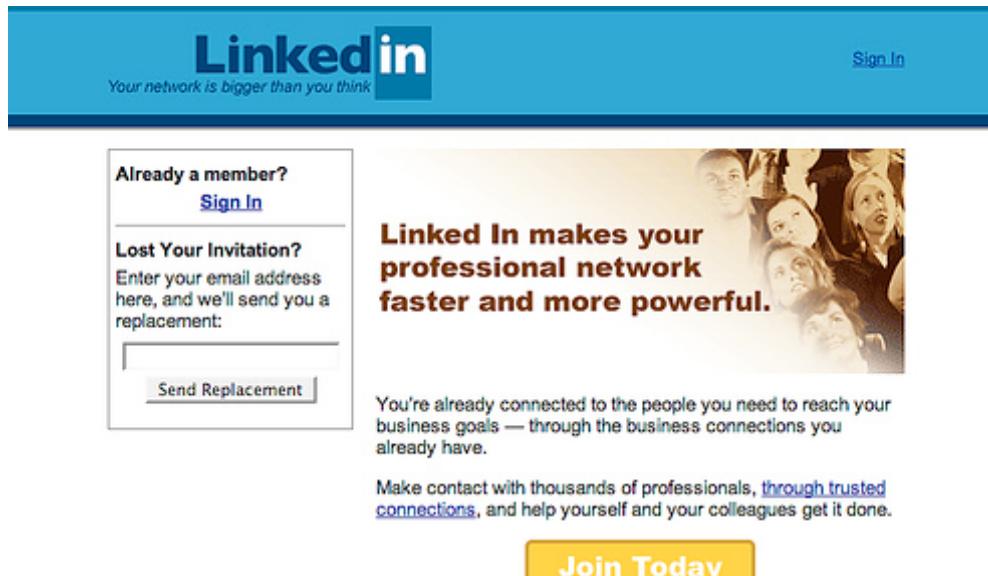
## Web 2.0



# Nytt sätt att använda webben



# 2003 - LinkedIn



# 2004 - thefacebook



# 2005 - YouTube



# 2006 - Twitter

The screenshot shows a web browser window titled "twtr" displaying the Twtrr website. The URL in the address bar is <http://twtr.com/t/account/identify>. The page features a large green "twtr" logo at the top. Below it, a tagline reads: "Use twtr to stay in touch with your friends all the time. If you have a cell and can txt, you'll never be bored again...E V E R !". On the left side, there are two main sections: "What your friends are" (showing updates from Kevin Systrom, Jeremy, and Katie) and "txt (or) What are you doing?" (a text input field with a "Send" button). Below these are "Timeline" and "what up?" sections. The "Timeline" section says "follow along with what your friends are doing throughout the day" and lists updates from Florian, Garrett, and goldman. The "what up?" section says "send updates from your cell or from the web about whats in yr head". On the right side, there is a "Sign in" form with fields for "Mobile number (or email)" and "Password (or PIN)", a "Remember me" checkbox, and a "Sign in" button. Below this is a "New? Sign up!" link and a note about verifying the user's mobile number. At the bottom, there is a "Get started" button.

twtr

Gmail – Inbox Google Calendar Valleywag Welcome to Flickr! del.icio.us/popular Google AdSense

Gmail – Inbox twtr

twtr

Use twtr to stay in touch with your friends all the time. If you have a cell and can txt, you'll never be bored again...E V E R !

What your friends are

Kevin Systrom babysitting  
Jeremy home - boys to bed  
Katie It's my birthday! (about)

txt (or)  
What are you doing?

Send

Timeline

follow along with what your friends are doing throughout the day

what up?

send updates from your cell or from the web about whats in yr head

Florian X [txt]  
Garrett X [txt]  
goldman X [txt]

New? Sign up!

twtr works best when updated from your mobile phone. To verify you are you, we'll need your number.

Mobile number

Get started

<http://twtr.com/>

# 2008 - Dropbox



På ”bara” 20år har det hänt en del...



**4,325,144,949**

Internet Users in the world

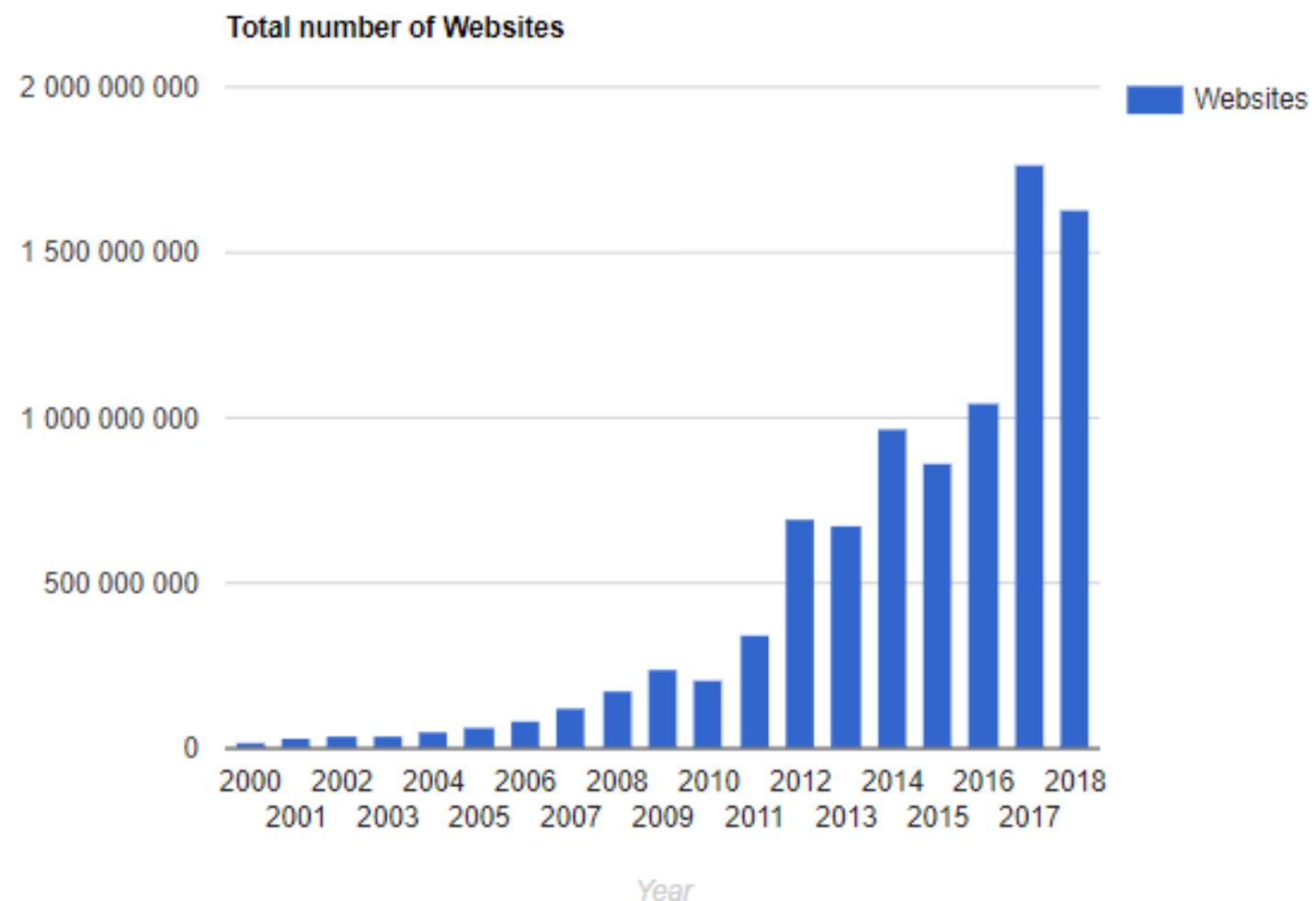


**1,711,624,871**

Total number of Websites

2019-09-02

# Antal webbsidor



Year (June)	Websites	Change	Internet Users	Users per Website	Websites launched
2017	<b>1,766,926,408</b>	69%			
2016	<b>1,045,534,808</b>	21%			
2015	<b>863,105,652</b>	-11%	3,185,996,155*	3.7	
2014	<b>968,882,453</b>	44%	2,925,249,355	3.0	
2013	<b>672,985,183</b>	-3%	2,756,198,420	4.1	
2012	<b>697,089,489</b>	101%	2,518,453,530	3.6	
2011	<b>346,004,403</b>	67%	2,282,955,130	6.6	
2010	<b>206,956,723</b>	-13%	2,045,865,660	9.9	<a href="#">Pinterest</a>
2009	<b>238,027,855</b>	38%	1,766,206,240	7.4	
2008	<b>172,338,726</b>	41%	1,571,601,630	9.1	<a href="#">Dropbox</a>
2007	<b>121,892,559</b>	43%	1,373,327,790	11.3	<a href="#">Tumblr</a>
2006	<b>85,507,314</b>	32%	1,160,335,280	13.6	<a href="#">Twtr</a>
2005	<b>64,780,617</b>	26%	1,027,580,990	16	<a href="#">YouTube, Reddit</a>
2004	<b>51,611,646</b>	26%	910,060,180	18	<a href="#">Thefacebook, Flickr</a>
2003	<b>40,912,332</b>	6%	778,555,680	19	<a href="#">WordPress, LinkedIn</a>
2002	<b>38,760,373</b>	32%	662,663,600	17	
2001	<b>29,254,370</b>	71%	500,609,240	17	<a href="#">Wikipedia</a>
2000	<b>17,087,182</b>	438%	413,425,190	24	<a href="#">Baidu</a>
1999	<b>3,177,453</b>	32%	280,866,670	88	<a href="#">PayPal</a>
1998	<b>2,410,067</b>	116%	188,023,930	78	<a href="#">Google</a>
1997	<b>1,117,255</b>	334%	120,758,310	108	<a href="#">Yandex</a>
1996	<b>257,601</b>	996%	77,433,860	301	

# Webbläsare idag

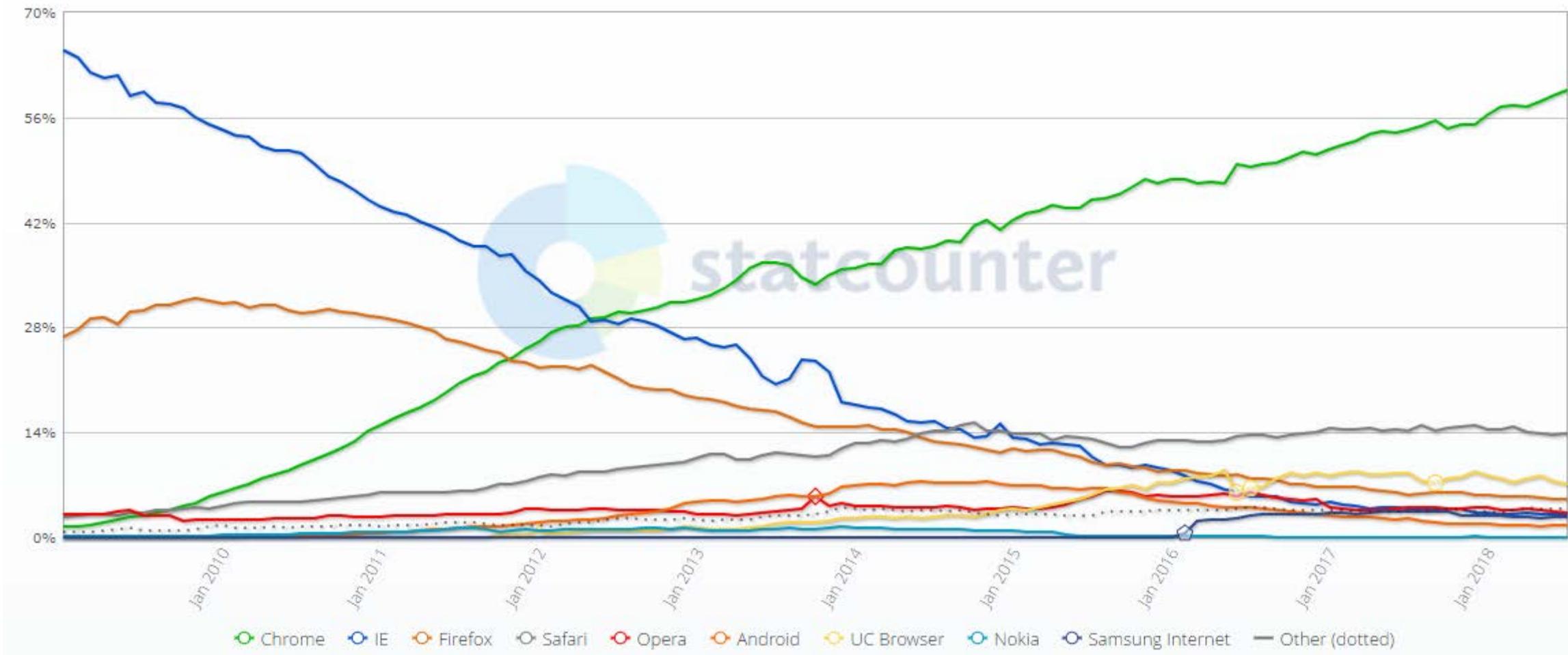


<http://www.soft32.com/blog/wp-content/uploads/2013/01/web-browsers.jpg>

# Browser Market Share Worldwide

Jan 2009 - July 2018

Edit Chart Data



Vad är en webbläsare?

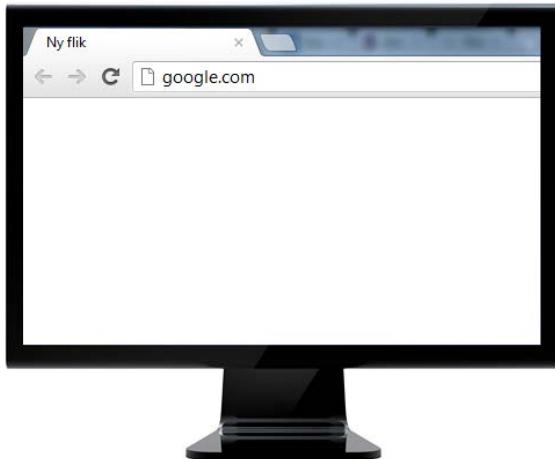
# Webbläsare

- Tolkar kod (html m.m.) och visar upp det för användaren.

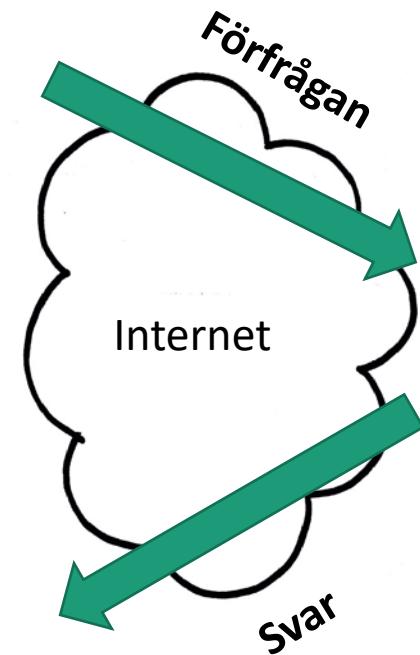
```
<!DOCTYPE HTML PUBLIC "-//IETF//DTD HTML 2.0//EN">
<html>
  <head>
    <meta name="TITLE" content="www.yourdomain.com" />
    <meta name="KEYWORDS" content="your keywords here" />
    <meta name="DESCRIPTION" content="your description here" />
    <link rel="stylesheet" type="text/css" href="style.css" />
    <script language="javascript" type="text/javascript" src="script.js" />
  </head>
  <body>
    <h1>Welcome to your website!</h1>
    <p>This is the main content area of your website. You can add as much text and multimedia content here as you like.</p>
    <form>
      <input type="text" name="name" placeholder="Name" />
      <input type="email" name="email" placeholder="Email" />
      <input type="submit" value="Submit" />
    </form>
  </body>
</html>
```

# Hur fungerar det?

Klient



Klient

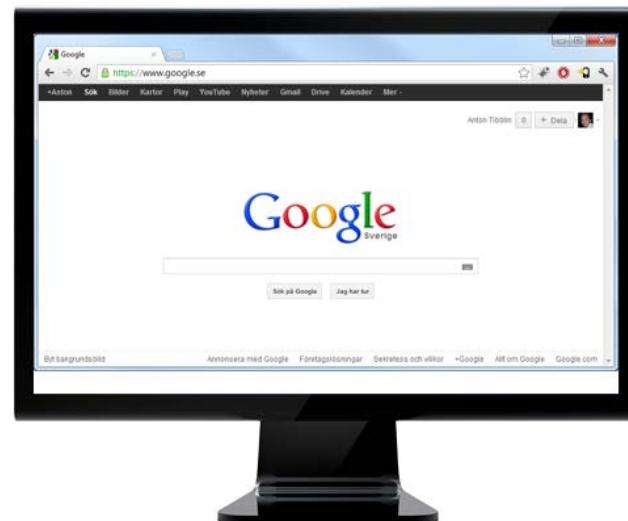


Server



# Svar?

- Svaret är i form av HTML, som strukturerar upp den information som skickas från servern till oss
- HTML-dokumentet kan sedan inkludera bl.a. text, bilder, formgivning av sidan, interaktiva element osv.



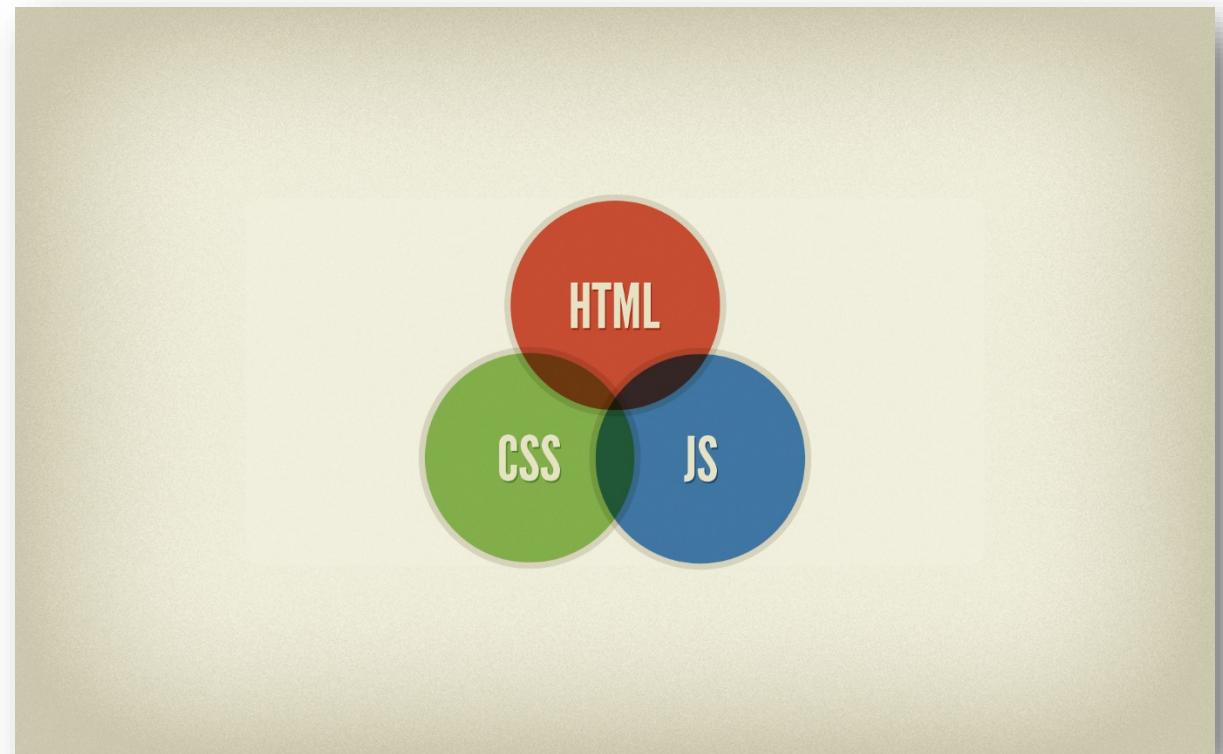
# Resultat

- En webbläsare visar oss en webbsida efter att ha renderat ett HTML-dokument

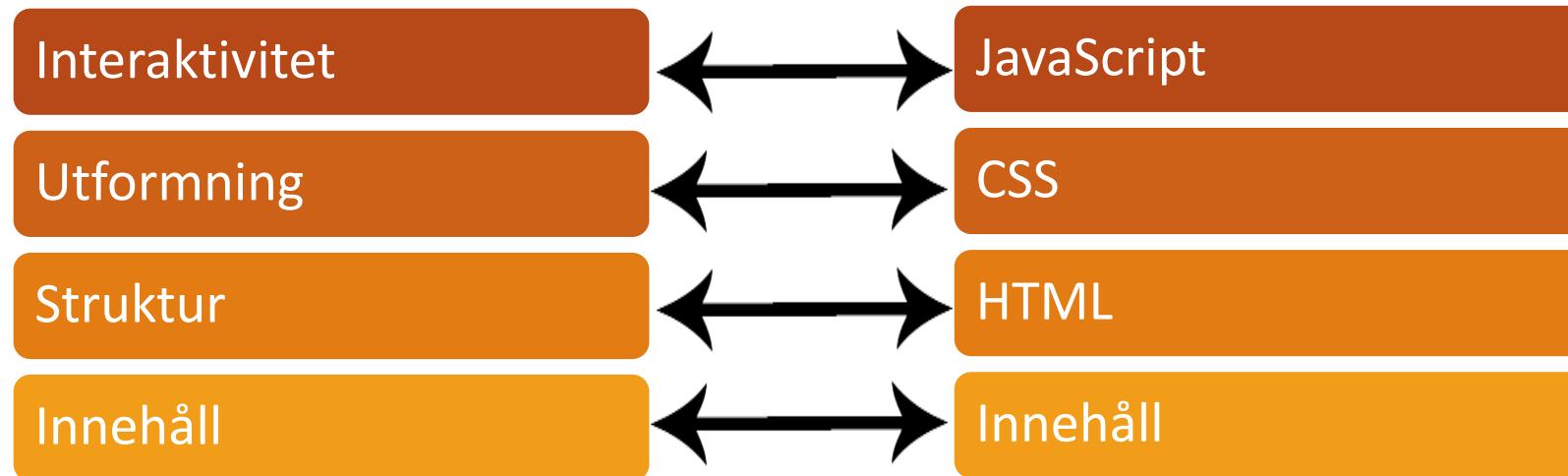


# Webbsida

- Består av olika sorters kod
  - HTML
  - CSS
  - JavaScript



# Vad består en webbplats av?



# HTML

- Hypertext Markup Language
- Märkspråk
- Används för att ge dokument en struktur – vad är vad?
- HTML byggs upp utav element som märker upp vilken typ av innehåll som finns på sidan



# HTML som märkspråk

The screenshot shows a web browser window with the following content:

**Lorem**

Placeholder text (Lorem ipsum) describing a sample text used in design and layout.

**Ipsum**

Placeholder text (Pellentesque scelerisque dui sem. Morbi pretium est eu lorem bibendum hendrerit. Nullam sed vestibulum ante.) describing a sample text used in design and layout.

- bibendum
- vestibulum
- adipiscing

*Praesent ut sem et lorem consectetur eleifend vel at nisi. Praesent nunc nisl, ullamcorper venenatis tristique vel, hendrerit eu dui.*

The browser interface includes a title bar with the URL "file:///C:/Users/tsanti/Desktop/Föreläsni" and various toolbar icons.

# Element?

- Det finns olika element som representerar olika innehåll, t.ex. rubriker, paragrafer, listor m.m.
- Grundprincipen är att det finns en start- och ett sluttagg. Det innehåll som finns mellan dessa taggar tilldelas elementets formatering.
- Kan även ha attribut



# Ett HTML-dokuments struktur

Element som alltid ingår i ett HTML-dokument:

- <html>, rotelementet
- <head>, dokumenthuvud (info om dokumentet)
- <title>, dokumentets titel
- <body>, dokumentets innehåll

```
<!DOCTYPE HTML>
<html>
    <head>
        <meta charset=utf-8">
        <title>Min sida</title>
    </head>

    <body>
        <!-- Här kommer innehåll som visas för användaren ligga -->
    </body>
</html>
```

# Exempel på HTML-struktur

**Text-editor**

**Webbläsare**

```
Välkommen!
... och känner dig som hemma
På denna sidan kan ni hitta lite
grundläggande saker om html. Nedan
ett exempel på en lista på olika
taggar som kan vara bra att känna till:
em
strong
div
span
```

# HTML-dokumentet i helhet



The image shows a screenshot of a web browser window titled "Min sida". The address bar indicates the file is located at "file:///C:/Users/tsanti/Documents/ex.html". The browser interface includes standard controls like back, forward, and search.

The rendered content of the HTML document is displayed:

```
<!DOCTYPE HTML>
<html>
  <head>
    <meta h
    <title>
      <h1>Välkommen!
      <h2><em>... och känner dig som hemma
      <p>På d
      grundlä
      ett exe
      kan var
      <ul>
        <li>
        <li>
        <li>
        <li>
      </ul>
    </body>
  </html>
```

**Välkommen!**

*... och känner dig som hemma*

På denna sidan kan ni hitta lite grundläggande saker om html. Nedan ett exempel på en lista på olika taggar som kan vara bra att känna till:

- em
- strong
- div
- span

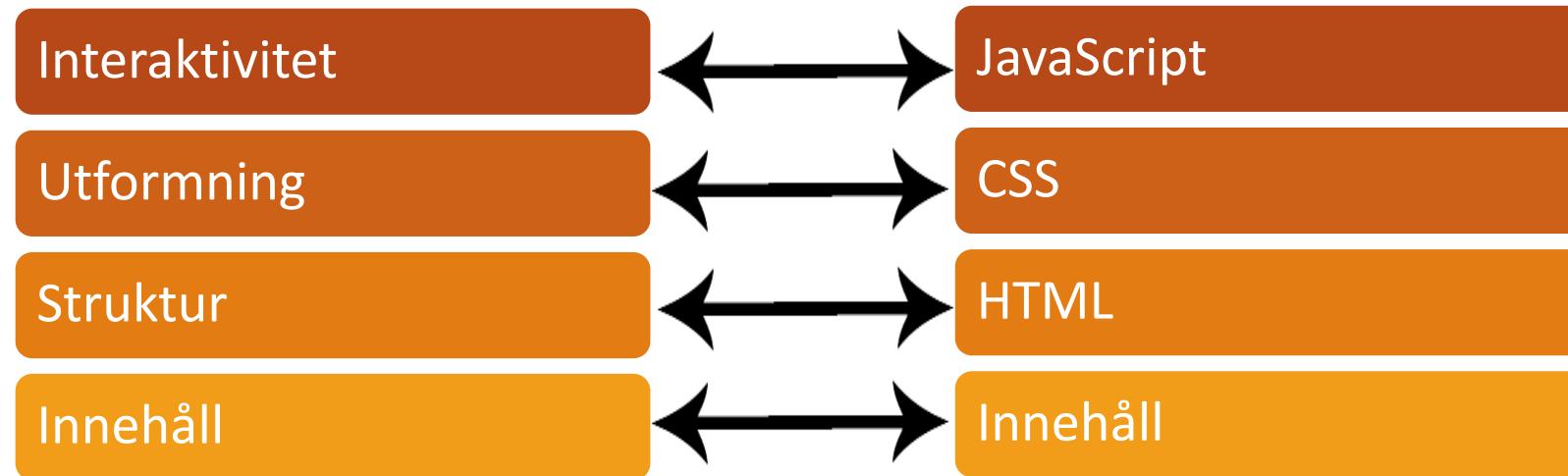
# Kort om CSS

- CSS sköter formgivning av innehåll, medan HTML sköter struktur av innehåll.
- CSS styr hur HTML-elementen ska visas
- Typisk användning av CSS är för typografi, layout, bildhantering m.m.
- CSS är ett eget språk, men går att använda tillsammans med HTML
- Genom att koppla olika CSS-mallar till samma HTML-dokument kan informationen presenteras på olika sätt

# Kort om JavaScript

- Ger möjlighet till interaktiva webbplatser
- Är ett programmeringsspråk som körs direkt i webbläsaren
- Kan skrivas tillsammans med HTML-kod
- Exempel på användningsområden är:
  - Validering av information i formulär
  - Visa/dölja information utan att ladda om sidan
  - Animeringar (t.ex. bildspel)

# Vad består en webbplats av?



Frågor?



# Nästa föreläsning

Imorgon, onsdag 5/9, kl. 13 (sal: G8:505)

da156a.ia-mau.se

Glöm inte =)