

Trend: Web 2.0

Geert-Jan Houben

Web 2.0

Semantic Web & Web 2.0

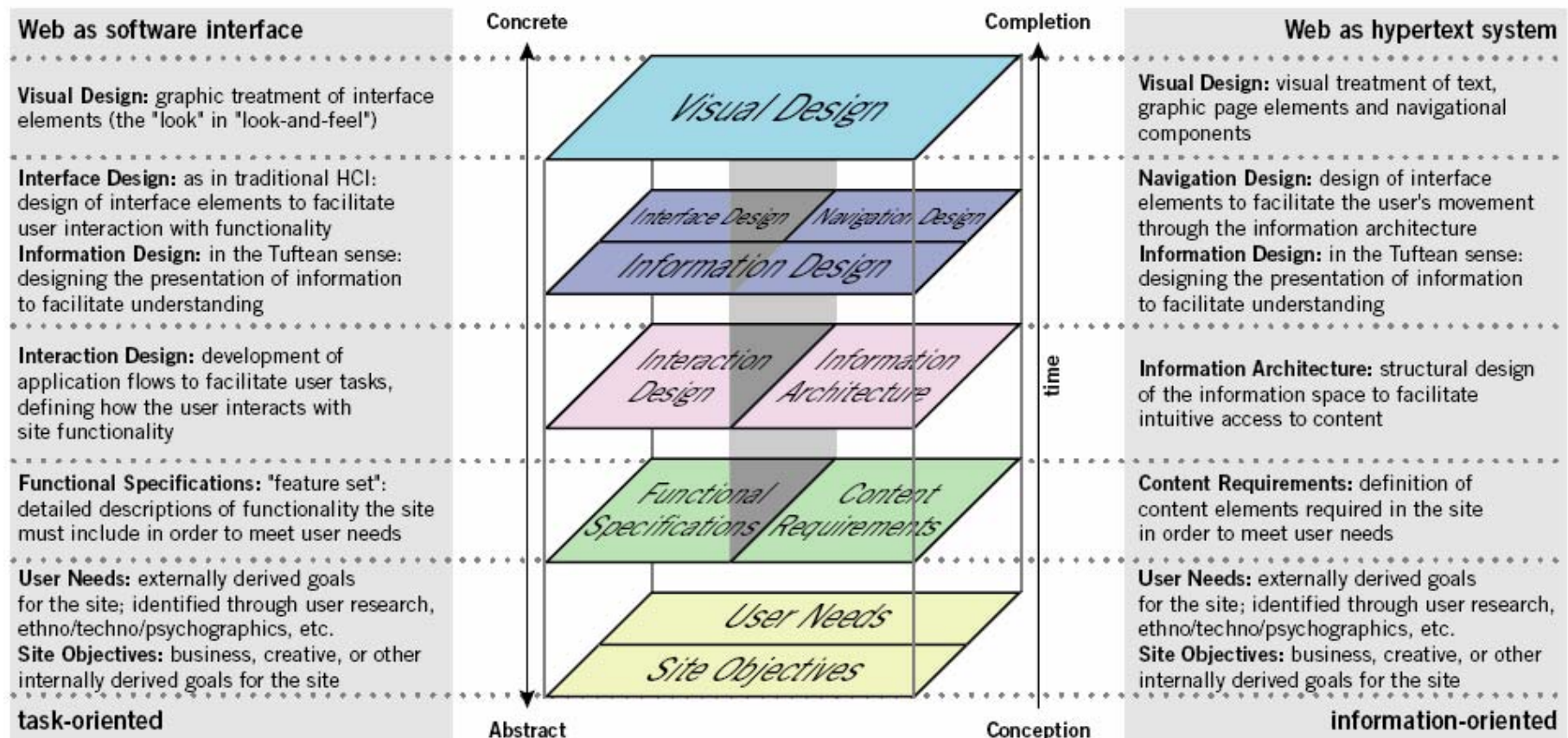
- Academic world takes up on Semantic Web (webizing KR-part of AI)
- In the geeky technical world it is Web 2.0

The Elements of User Experience

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A basic duality: The Web was originally conceived as a hypertextual information space; but the development of increasingly sophisticated front- and back-end technologies has fostered its use as a remote software interface. This dual nature has led to much confusion, as user experience practitioners have attempted to adapt their terminology to cases beyond the scope of its original application. The goal of this document is to define some of these terms within their appropriate contexts, and to clarify the underlying relationships among these various elements.



This picture is incomplete: The model outlined here does not account for secondary considerations (such as those arising during technical or content development) that may influence decisions during user experience development. Also, this model does not describe a development process, nor does it define roles within a user experience development team. Rather, it seeks to define the key considerations that go into the development of user experience on the Web today.

Web 2.0 Name

- Originally, meaningless
 - Web 2.0 conference in 2004
 - Web as platform, Web-based applications
- Later, something about democracy
- Main ingredient Ajax ("Javascript now works"; Web-based applications work like desktop ones)
- New generation of software written using Ajax, e.g. Google Maps

Democracy

- Amateurs do the work:
 - [Wikipedia](#)
- "Good enough and for free"
- Voters are better than editors
- Site is for/from/by the users (less obtrusive)

- Social networking

Web 2.0: more content

- Readers create more and more content
 - Podcasts
 - Tags
- Users are more in control
- Building digital communities
- The starting point is easier (is it?)

Open platform

- on top of Google stuff
 - [Busmonster](#) (on top of [Google Maps](#) (API))
 - Calendars on Google Calendar
- Google was 2.0 avant la lettre
- Ajax
- Rich Internet Applications

Social Networking

Organizing information

- Information on Web sites
 - "add, add, add"
 - problem how to organize the information
- Taxonomies:
 - hierarchical tree structures, e.g. classification schemes
 - expensive to create and maintain
 - do not use the language of the users
- N.B. Interesting technology (still)

Folksonomy

- "Collaboratively generated, open-ended labeling system"
 - improved search effectiveness through categorization with familiar, accessible and shared vocabulary: no complicated nomenclature
 - in Internet-mediated social environments
 - open-ended, quick response to changes
- "Unsystematic and unsophisticated"


Folksonomies

- Folk ontologies
- Not really ontologies
- Simply property associations

Folksonomies

Folksonomy

From Wikipedia, the free encyclopedia

A **folksonomy** is a [user generated taxonomy](#) used to [categorize](#) and [retrieve Web pages](#), [photographs](#), [Web links](#) and other [web content](#) using open ended labels called [tags](#). Typically, folksonomies are [Internet](#)-based, but their use may occur in other contexts as well. The process of folksonomic tagging is intended to make a body of information increasingly easy to  [contexts: contexto](#) and navigate over time. A well-developed folksonomy is ideally accessible as a shared vocabulary that is both originated by, and familiar to, its primary users. Two widely cited examples of websites using folksonomic tagging are [Flickr](#) and [del.icio.us](#), although it has been suggested that Flickr is not a good example of folksonomy.^[1]

Because folksonomies develop in [Internet](#)-mediated social environments, users can discover (generally) who created a given folksonomy tag, and see the other tags that this person created. In this way, folksonomy users often discover the tag sets of another user who tends to interpret and tag content in a way that makes sense to them. The result, often, is an immediate and rewarding gain in the user's capacity to find related content. Part of the appeal of folksonomy is its inherent subversiveness: when faced with the choice of the search tools that Web sites provide, folksonomies can be seen as a rejection of the [search engine](#) status quo in favor of tools that are created by the community.

Tagging

- Tagging done by people interacting with the content (not outsider with controlled vocabulary)
- Lower costs than top-down controlled vocabularies (e.g. Dublin Core)
- Also information about the taggers: human engagement

New: User-driven

- Users add "tags" to the information
- Users create navigational links out of those tags for users to find and organize information later
- Organized and maintained by users (in their words, e.g. "cameraphone")
- Challenge: apply to existing site or organization?

Social Networking Examples

- Flickr.com (<http://www.flickr.com>)
- Del.icio.us (<http://del.icio.us>)
- De.lirio.us (<http://de.lirio.us/rubric>)
- CiteUlike (<http://www.citeulike.org>)
- Simpy (<http://www.simpy.com/>)
- <http://www.openacademia.org/>
- <http://flink.semanticweb.org/>

Flickr.com

The screenshot shows the Flickr.com interface for a user's photo tags. At the top, there's a navigation bar with 'Home', 'You', 'Organize', 'Contacts', 'Groups', and 'Explore'. Below this is the user's profile picture and the text 'Your photos / Tags / Search'. A red-bordered box highlights the instruction: 'Choose more than one tag to find photos that are tagged with *any* or *all* of those tags.' Below this are two columns of tags with checkboxes: 2006, 2007, amsterdam, berlin, birthdayparty, hawaii, iui2007, lora, march, and supperclub. A yellow callout box points to this section with the text 'Search for content by tags'. Below the tags is a 'Show all tags' link and two radio buttons: 'Show photos with **all** of the selected tags' (selected) and 'Show photos with **any** the selected tags'. A blue 'DISPLAY PHOTOS' button is present. Another red-bordered box highlights a message: 'You have [151 untagged photos](#). (Click the link to open them in Organizr where you can add a tag to some or all of them at once.)' A yellow callout box points to this message with the text 'Creates awareness which photos still need tagging'. Below the message is a table of tags with columns: Tag, Entered as, On, and actions (Edit, Delete). A large number '2' is placed to the left of the table. A red-bordered box highlights the first row of the table: Tag: 2002, Entered as: 2002, On: 1 photo, Edit, Delete. A yellow callout box points to this row with the text 'Browse content by tags'.

Choose more than one tag to find photos that are tagged with *any* or *all* of those tags.

- [2006](#)
- [2007](#)
- [amsterdam](#)
- [berlin](#)
- [birthdayparty](#)
- [hawaii](#)
- [iui2007](#)
- [lora](#)
- [march](#)
- [supperclub](#)

▶ [Show all tags](#)

Show photos with **all** of the selected tags
 Show photos with **any** the selected tags

DISPLAY PHOTOS

Or, [return to your tags](#).

You have [151 untagged photos](#).
(Click the link to open them in Organizr where you can add a tag to some or all of them at once.)

Tag	Entered as	On	
2002	2002	1 photo	Edit Delete
2005	2005	3 photos	Edit Delete
2006	2006	18 photos	Edit Delete

Del.icio.us

The screenshot shows the Del.icio.us user profile for 'laroyo'. The top navigation bar includes links for 'your bookmarks', 'your network', 'subscriptions', 'links for you', and 'post'. The user is logged in as 'laroyo' with links for 'settings', 'logout', and 'help'. The main content area displays a list of bookmarks, each with a title, source, and a 'saved by' count. A yellow callout box labeled 'Discover other people's tags' points to the 'saved by' links. A red-bordered box highlights the 'tags' and 'tag options' section on the right. A second yellow callout box labeled 'Suggests Tags & Recommends popular tags' points to the 'recommended tags' and 'popular tags' section at the bottom of the page. The bottom section shows a form for adding a new bookmark with fields for 'url', 'description', 'notes', and 'tags'. A red-bordered box highlights the 'recommended tags' and 'popular tags' section below the form.

del.icio.us / laroyo / popular | recent

your bookmarks | your network | subscriptions | links for you | post logged in as **laroyo** | settings | logout | help

All your items (6) del.icio.us

« earlier | later » showing all 6 items

Discover other people's tags

RBB Kulturradio - Startseite [edit / delete](#)
to Berlin radio ... **saved by 7 other people** ... 1 min ago

Berliner Festspiele [edit / delete](#)
to Berlin fest ... 2 mins ago

e-cultuur [edit / delete](#)
to cultuur beleid eculture belgium ... **saved by 2 other people** ... 3 mins ago

EUROPA - Culture - European Commission - Culture - home [edit / delete](#)
to eculture europe ... **saved by 17 other people** ... 3 mins ago

Google [edit / delete](#)
to my google ... **saved by 5543 other people** ... 4 mins ago

Flickr: Your tags [edit / delete](#)
to my flickr ... 4 mins ago

Suggests Tags & Recommends popular tags

tags beleid belgium Berlin cultuur eculture europe fest flickr google my radio

tag options

- » view as cloud | list
- » sort by alpha | freq
- » use minimum: 1, 2, 5
- » show | [hide](#) bundles
- » [bundle tags](#)
- » edit tags: [rename](#) | [delete](#)

del.icio.us

url

description

notes

tags space separated

recommended tags

[radio](#)

popular tags

[tv](#) [streaming](#) [media](#) [televisie](#) [dutch](#) [Television](#) [entertainment](#)

YouTube.com

The image shows a screenshot of the YouTube.com search results page for the query 'eculture'. The page layout includes the YouTube logo, user account information, navigation tabs, and search filters. A yellow box highlights the text 'Uses links between Structured Categories & User Tags'. Red dashed lines connect this text to specific elements: 'eculture iscpm' and 'eculture resume iscpm' tags, 'Eculture and communication at CELSA' and 'in Category: People & Blogs', and the 'Refine by Category' section.

YouTube
Broadcast Yourself™

Hello, [laroyo](#) (0) | [My Account](#) | [History](#) | [QuickList \(0\)](#) | [Help](#) | [Log Out](#)

eculture Search

Videos Categories Channels Community Upload Videos

Uses links between **Structured Categories & User Tags**

Search Video results for 'eculture' Results 1-14 of 14 (0.19 s)

Search In
● Videos
[Channels](#)
[Groups](#)
[Playlists](#)

Sort By
● Relevance
[Date Added](#)
[View Count](#)
[Rating](#)

Refine by Category
● All
[Autos & Vehicles](#)
[Comedy](#)

eculture iscpm
00:56
alegria iscpm eculture 2007 resume
Tags: **eculture resume iscpm**
Added: 1 month ago in Category: [People & Blogs](#)
From: [alegriademurga](#)
Views: 83

Eculture and communication at CELSA
00:57
A typical class of eculture and communication at Celsa
Tags: [class](#) [work](#) [eculture](#)
Added: 2 months ago in Category: **People & Blogs**
From: [guillaumelegandneux](#)
Views: 73

Ads by Google
Looking for Indian Talent
Post Your Job Requirement Online Get Access to Resume Database Now!
[www.monsterindia.com](#)

Cv
Voor alle informatie en tips op het gebied van solliciteren
[www.stepstone.nl](#)

U zoekt CV's?
U vindt ze op

Features

- Social network, user-involvement
- Dynamic classification and organization
- Rich hypermedia navigation generation
- Technology for rich user interface
- RIA: Rich Internet Application

Ajax

Ajax

Asynchronous JavaScript + ... +
XMLHttpRequest

Motivation

- Very dynamic user interfaces
 - any interaction requires contact with the server; relies on HTTP and differs from desktop apps where interface is connected to application layer
- Solution: Javascript and XMLHttpRequest object
 - example: immediate feedback on a form
 - Javascript: not exposing application logic; serious logic not in interface layer
 - XMLHttpRequest object (ActiveX object in IE, native in Mozilla en Safari) enables Javascript to make HTTP requests to a remote server without reloading the page

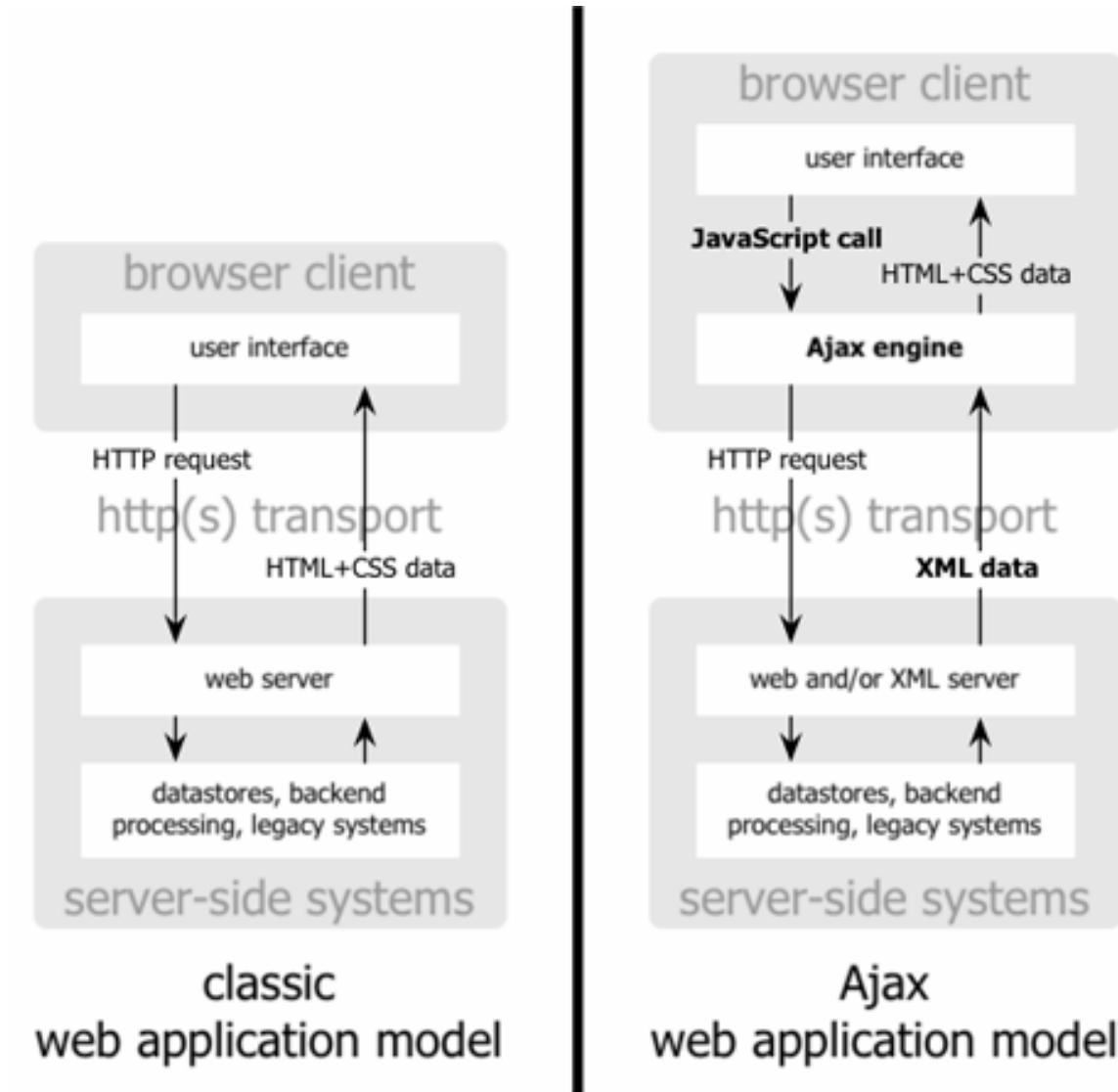
[Cleaning your website with Ajax, Dion Almaer & Ben Galbraith](#)

Ajax Technology

- Not one technology - several technologies
 - standards-based presentation with XHTML and CSS
 - dynamic display and interaction with Document Object Model
 - data interchange and manipulation with XML and XSLT
 - asynchronous data retrieval with XMLHttpRequest
 - JavaScript binding everything together
- Richness and responsiveness of the web applications – similar to the desktop applications

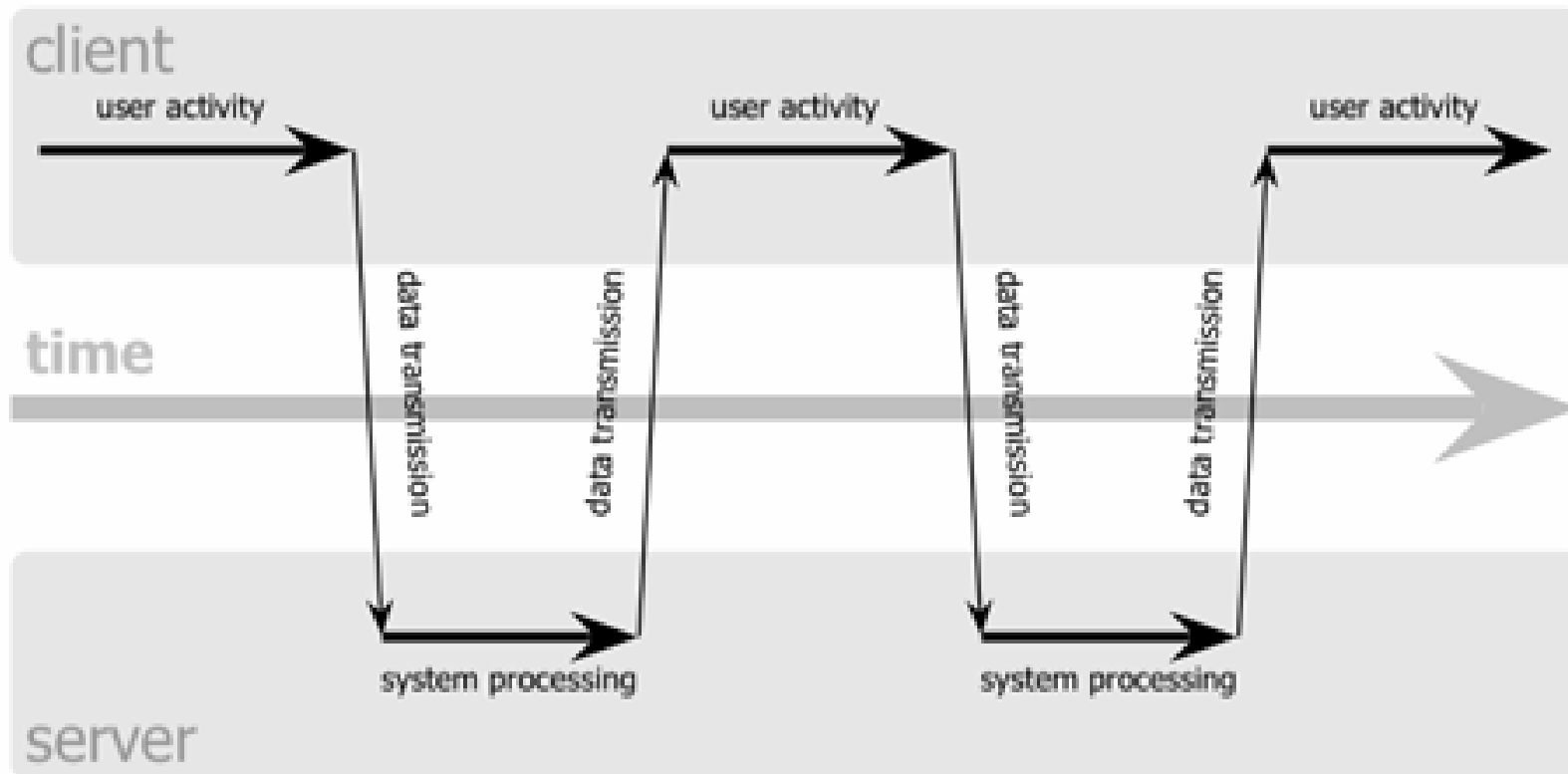
[Ajax: A New Approach to Web Applications, Jesse James Garrett](#)

Traditional vs. Ajax Web Application



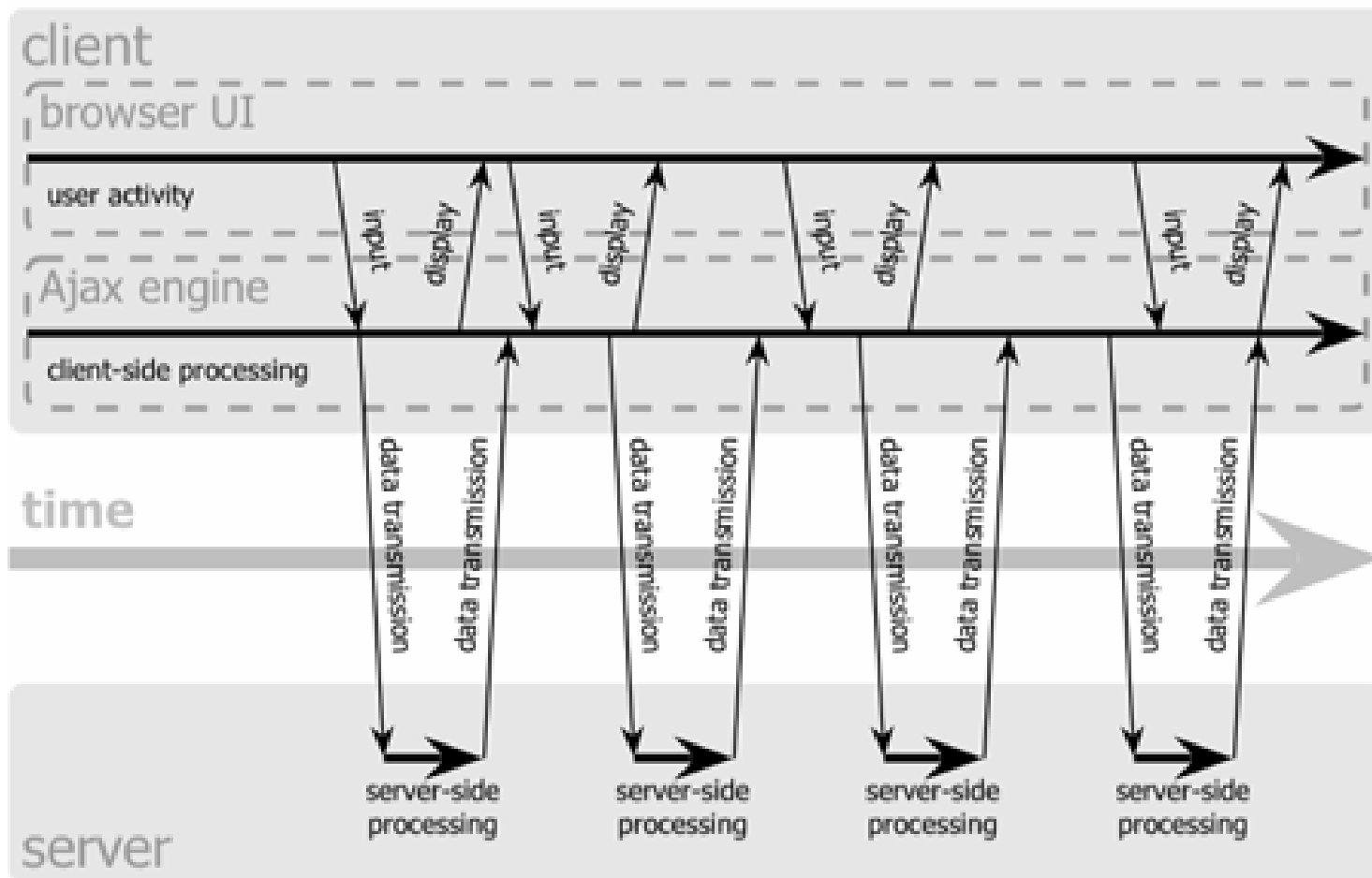
Classic Web Application Model

- Synchronous



Ajax Web Application Model

- Asynchronous



Ajax Technology Drawbacks

- Code is more complex
- Running complex JavaScript code on the client
- Making it efficient and bug-free is a heavy task
- Better development tools and frameworks are needed

Examples of applying Ajax

- [Google](#)
 - Orkut, Gmail (API), Google Groups, Google Suggest, Google Maps
- [Flickr](#) features depend on Ajax (next to PHP)
- Amazon's [A9.com](#) search engine

Web 2.0 examples

- Google Docs (first Writely), Web word processor, (<http://docs.google.com>)
- SiteVista, testing apps on different browsers, resolutions etc. (<http://www.sitevista.com>)

1.0 -> 2.0

Web 1.0

DoubleClick
Ofoto
Akamai
mp3.com
Britannica Online
personal websites
evite
domain name speculation
page views
screen scraping
publishing
content management systems
directories (taxonomy)
stickiness

Web 2.0

Google AdSense
Flickr
BitTorrent
Napster
Wikipedia
blogging
upcoming.org and EVDB
search engine optimization
cost per click
web services
participation
wikis
tagging ("folksonomy")
syndication

<http://www.oreilly.com/pub/a/oreilly/tim/news/2005/09/30/what-is-web-20.html>

Web 3.0

- some say:
 - after a period of focus on the front-end with 2.0
 - in 3.0 the back-end gets upgraded in the next period, with several technologies that evolved and characterized by semantics
- but this is causing heated debates 😊

http://radar.oreilly.com/archives/2007/10/web_30_semantic_web_web_20.html

Pointers

- <http://www.oreillynet.com/> general stuff on XML etc.
- <http://www.xml.com> idem
- <http://ebiquity.umbc.edu/resource/html/id/154/AJAX-Tutorial> Ajax tutorial
- <http://www.ajaxian.com/downloads/presentations/ajax-eurooscon2005.pdf> Ajax tutorial
- <http://www.clearnova.com/ajax/> basic Ajax examples (code)
- <http://www.devsource.com/article2/0,1895,1941755,00.asp> Web 2.0 tutorials

Homework

- Some of our fellow TU/e researchers are conducting a CHIP experiment:
- We have a new version of the Artwork Recommender and we would like you to have a look at it. You can go to the demo site [<http://www.chip-project.org/demo>] and use the link to the Artwork Recommender. Try to rate some 20-30 artworks and concepts (the more the better). If you have any comments we would love to hear them.
- We are planning an experiment and we would like to collect sufficient rating data from different types of users. If you could ask also your friends, neighbors or family to do the same, we would be very grateful. The more ratings, from various users, the better.
- Before you proceed with the demo, please take 2 minutes to fill in the questionnaire with short information about yourself (at the same page as the artwork recommender). This information is critical for us for further improvements of the personalization strategies. All personal data will be used as anonymous data. No personal information will be used outside the context of this study.

Homework

- Study/consider some issues w.r.t. 2.0 & WIS:
 - navigation design in RIA
 - portability with RIA
 - cold start problem with social/collaborative applications
 - quality problems with social networking

Assignment

- Write a position paper on the design and engineering challenges when developing Web 2.0 WIS applications
 - exemplify your position in terms of a concrete example application: show what makes this application “2.0” and describe the engineering challenges that follow from that; preferably also give a recipe how to meet those challenges; focus on the data in the WIS
 - min. 3 pages
 - deadline October 21 at noon

