



J-Spring

16 april 2008 Spant! - Bussum



Mashups for the masses

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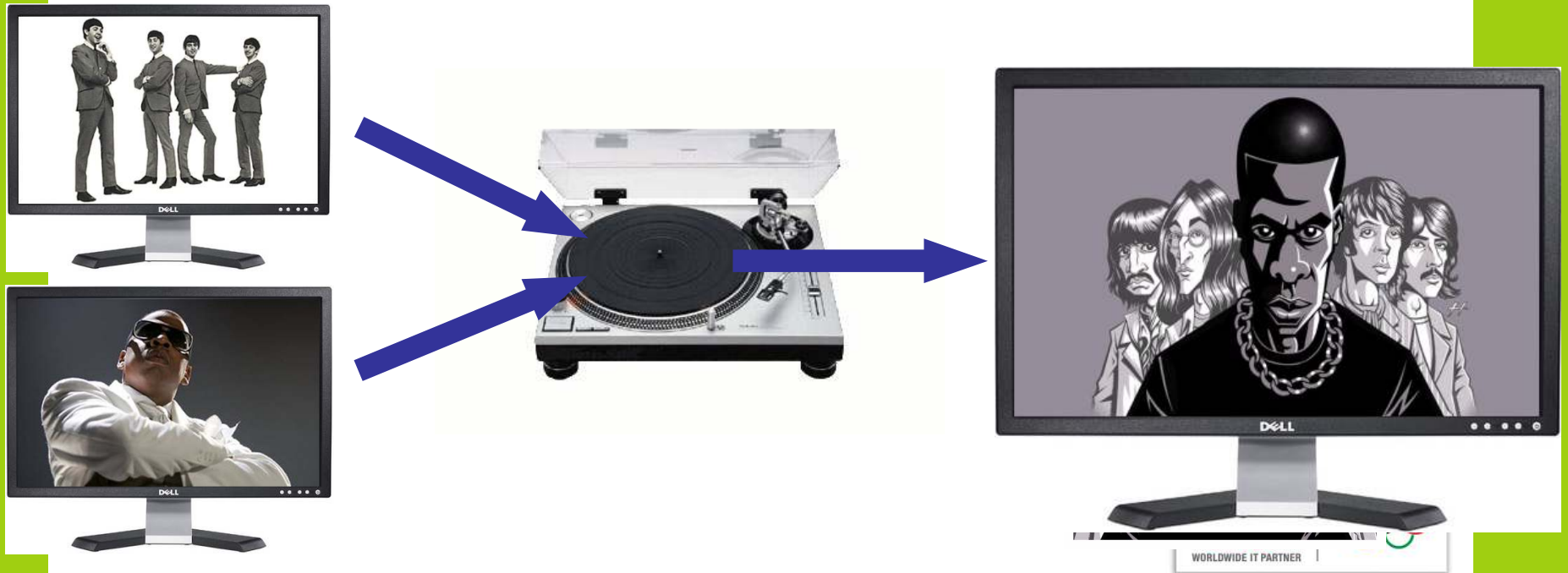


Agenda

- **Mashups**
- Voorbeelden
- Architectuur
- Yahoo!
- Google
- Case + Demo
- Mashup tools
- Standaarden
- Aandachtspunten

Wat is een mashup

- Muzikale stroming
 - DJ Danger Mouse: The Beatles and Jay-z
- Web 2.0
 - “a web application that combines data from more than one source into a single integrated tool “ (Wikipedia)

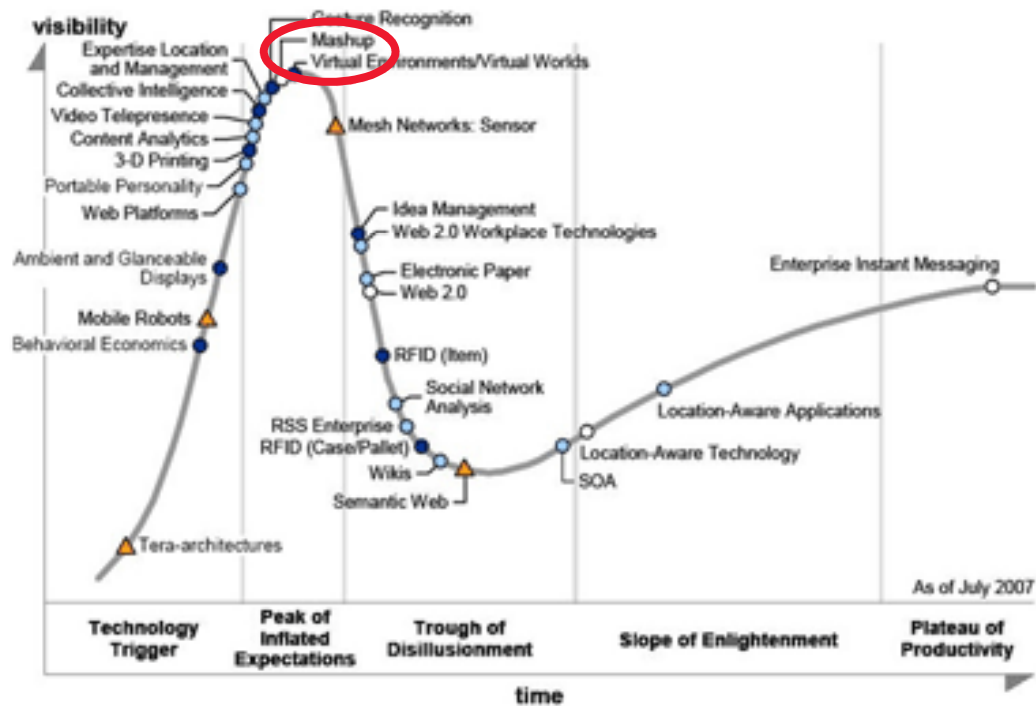


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Hype!!!!

Hype Cycle for Emerging Technologies, 2007



As of July 2007

Years to mainstream adoption:

○ less than 2 years

● 2 to 5 years

● 5 to 10 years

▲ more than 10 years

○ obsolete

○ before plateau

Source: Gartner (July 2007)



Soorten mashups

- Publieke mashups
- Enterprise mashups
 - combineer enterprise data uit verschillende bronnen;
 - mogelijk ook publieke bronnen;
 - dashboard;
- Gadgets / widgets in sidebar / persoonlijke pagina
 - eigenlijk geen mashup
 - soms gebruikt in mashups



Soorten gegevensbronnen

- Feeds
 - (Geo)-RSS
 - ATOM
- (Web) services
 - Typisch in enterprise-context
- Maps
 - Google, Yahoo!, Virtual Earth, ...
- HTML
 - Screen scraping



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Voorbeelden, shopping

- Zoeken in verschillende shops
- Vergelijken van de prijzen van de verschillende shops
- Community, review door andere gebruikers over producten én shops
- <http://www.vergelijk.nl/>



Voorbeelden, nieuws

- Integreren van verschillende nieuwsbronnen
- Bronnen zijn diverse soorten, bijvoorbeeld de beurs met nieuwsberichten
- <http://finance.google.com>



Voorbeelden, video en foto

- Tonen van foto en map/3d foto's
- Herkenbare punten opslaan
- <http://www.360tuscany.net/>



Voorbeelden, mapping

- Informatie met een map combineren
- Geografische informatie (GeoRSS) in kaart brengen
- <http://www.swisstrains.ch>

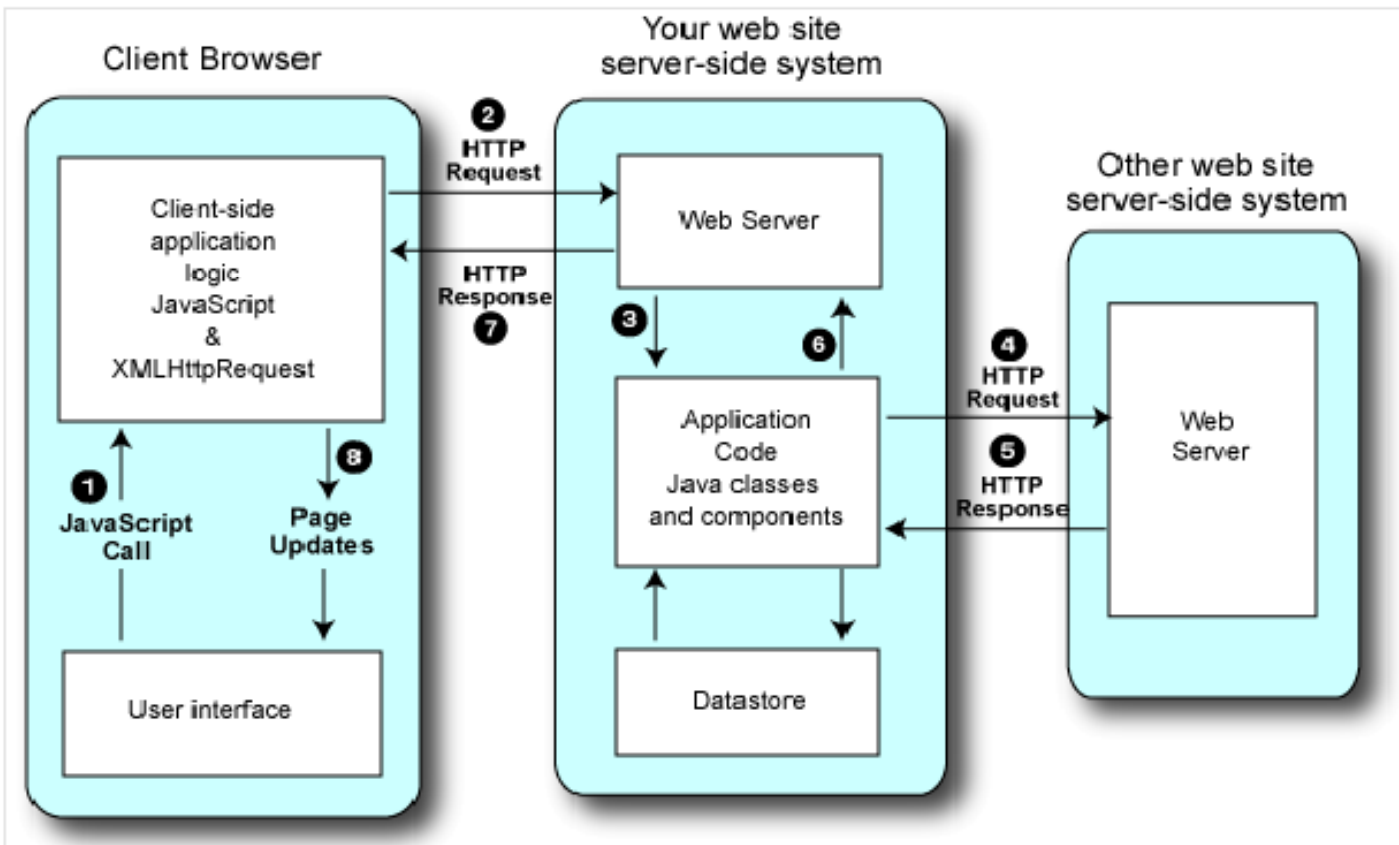


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Server Side Integratie

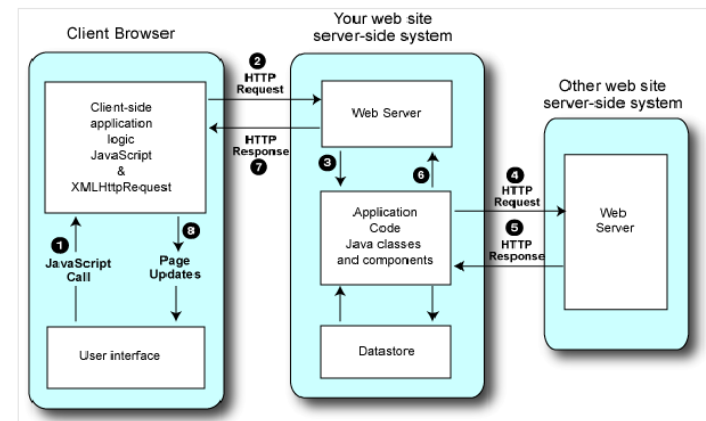


Figuur 1: server-side mash-up, ref: sun.com



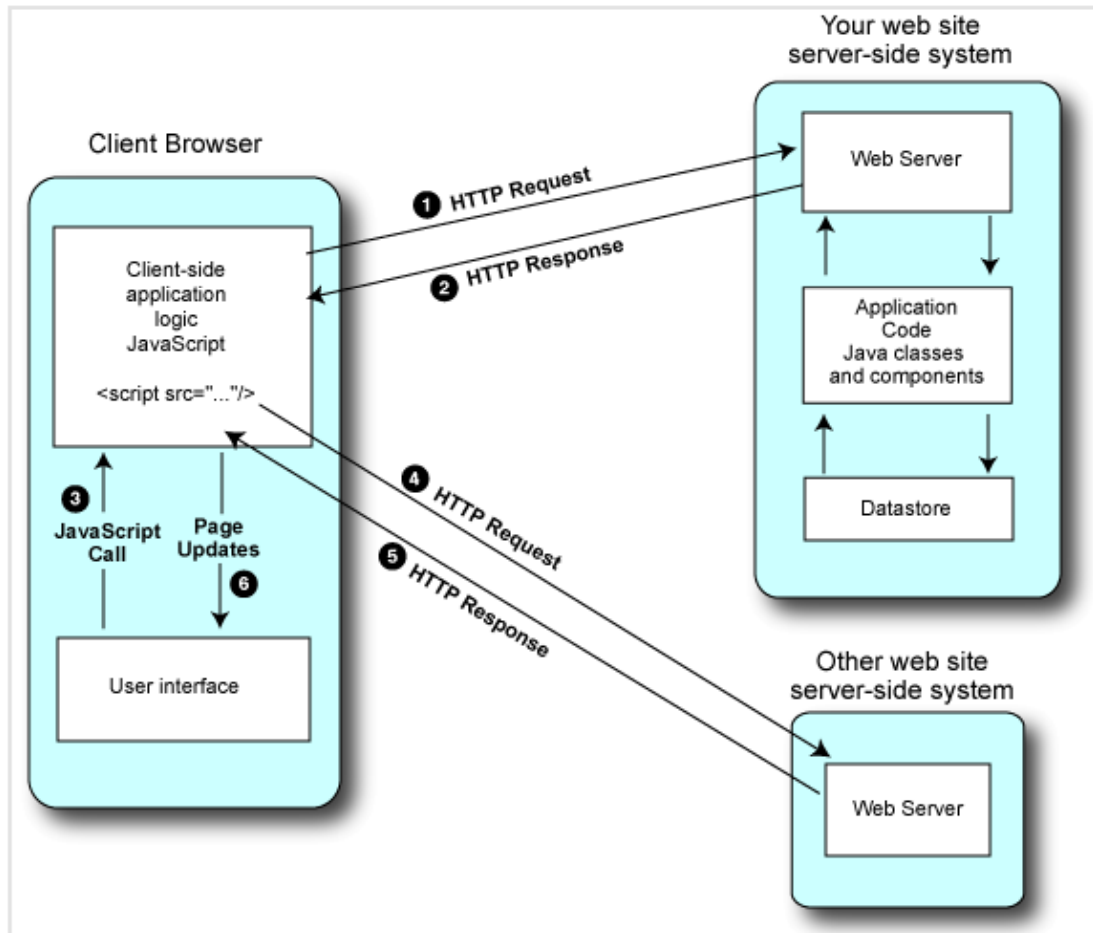
Server Side Integratie (2)

- Voordelen
 - Beveiliging: XMLHttpRequest sandboxing
 - Veel libraries in JAVA en .NET om WS te gebruiken
 - Filtering van data
 - Caching
 - Aggregatie
- Nadelen
 - App Server
 - Minder ad-hoc





Mashups Client Side



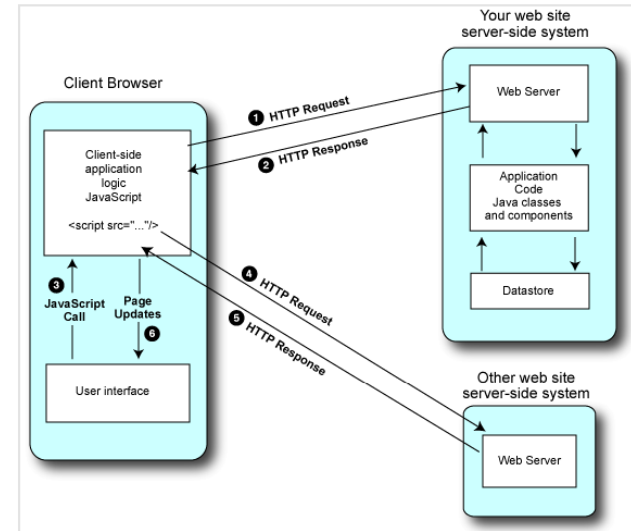
Figur 2: client-side mash-up, ref: sun.com





Mashups Client Side

- Nadelen
 - Cross-domain issues
- Voordelen
 - Cross-domain met JSON
 - Makkelijk en snel, geen applicatieserver nodig
 - Performance, kracht van client wordt gebruikt





Welke architectuur

- Client Side
 - Snelle ontwikkeling
 - Data beschikbaar van zelfde host of domein
 - Beveiliging geen issue binnen het intranet
- Server Side
 - Veel datafiltering en aggregatie
 - Caching mogelijk
 - Diverse externe bronnen buiten het eigen domein aanroepen



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Yahoo! Toolkit (1)

- Yahoo! Music engine
- Yahoo! Widgets
- Yahoo! Search
- Yahoo! Travel
- Yahoo! Traffic
- Yahoo! User Interface Library
- Yahoo! Pipes
- ...

Connection Manager

The Connection Manager is a utility that enables you to make in-page HTTP requests through a simplified interface to the XMLHttpRequest object. The Connection Manager handles cross-browser instantiation of XMLHttpRequest, negotiates the server response and uses a callback pattern to process the response data.

JSON Utility

The JSON Utility is a YUI implementation of [Douglas Crockford's work](#) on JSON (JavaScript Object Notation). JSON is a safe, efficient, and reliable data interchange format. The JSON Utility provides methods for working with JSON in JavaScript, providing JSON-to-string and string-to-JSON conversion and validation.

The Yahoo! Us

The Yahoo! User Int
scripting, DHTML ar
[license](#) and are free

[Download YUI](#) [D](#)

The library's develop

Using YUI:

- [FAQ](#)
- [Getting Started](#)
- [Licensing](#)
- [Cheat Sheets](#)
- [Support & Commur](#)
- [Filing Bugs & Featu](#)

Searchable API Doc

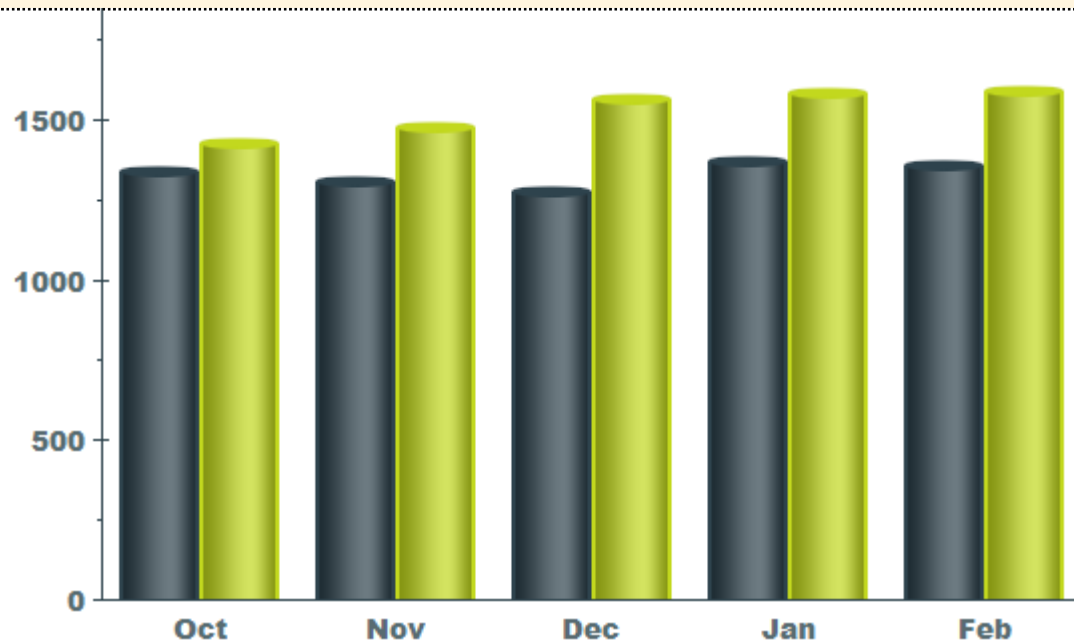
API docs are availabe
search the API docum
[main API page](#).

The YUI Compresso

The YUI Compressor
helps you minify your
and [download informa](#)

YUI Developer Tool:

- [Logger Control](#)
- [Profiler](#) ^{BETA} (client-side, cross-browser profiling)
- [ProfilerViewer Control](#) ^{BETA}
- [YUI Test Utility](#)



niques such as DOM
source under a [BSD](#)

[Panel](#), [Tooltip](#).

- [Resize Utility](#) ^{BETA}
- [Selector Utility](#) ^{BETA}
- [The YUI Loader Utility](#)

YUI Library CSS Tools:

- [CSS Reset](#) (neutralizes browser CSS styles)
- [CSS Base](#) (applies consistent style foundation for common elements)
- [CSS Fonts](#) (foundation for typography and font-sizing)
- [CSS Grids](#) (more than 1,000 CSS-driven wireframes in a 4KB file)





Yahoo! Widgets

- Desktop experience
- Mashups:
 - Veel standaard
 - Zelfbouw mogelijk

- <http://widgets.yahoo.com>





Yahoo! Mapping

- Verschillende manieren
 - AJAX (JavaScript)
 - Flash (Actionscript 2 en 3)
 - Simple API
 - Image API
- Mogelijkheden
 - Plaatsen van markers, labels etc
 - Geocoding
 - Routes weergeven (polylines)
 - Zooming, navigatie



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Google APIs

So many to choose from...

Android

Google Data APIs

Blogger Data API

FeedBurner APIs

Gmail Atom Feeds

Google Account Authentication

Google AdSense API

Google AdSense for Audio API

Google AdWords API

Google AJAX APIs

Google AJAX Feed API

Google AJAX Language API

Google AJAX Search API

Google Analytics

Google Apps APIs

Google Base Data API

Google Book Search Book Viewability API

Google Calendar APIs and Tools

Google Chart API

Google Checkout API

Google Code Search

Google Code Search Data API

Google Contacts Data API

Google Coupon Feeds

Google Desktop Gadget API

Google Desktop Search APIs

Google Documents List Data API

Google Gadgets API

Google Gears

Google KML

Google Mapplets

Google Maps API

Google Mashup Editor

Google News Feeds

Google Notebook Data API

OpenSocial

Orkut

Google Safe Browsing APIs

Google Search Appliance APIs

Google Search History Feeds

Google Sitemaps

Google SketchUp Ruby API

Social Graph API

Google Spreadsheets Data API

Google Static Maps API

Google Talk XMPP

Google Themes API

Google Toolbar API

Google Transit Feed Specification

Google Visualization API

Google Web Toolkit

Picasa APIs

Picasa Web Albums Data API

YouTube Data API



Google APIs bruikbaar voor mashups

- Google maps API: maps etc.
- Google chart API: grafieken
- Google gadgets API
 - XML + HTML + JavaScript
 - Fetch HTML, feeds, XML
 - Gadgets in iGoogle, Google Desktop (google account nodig)
- ...en natuurlijk Google Mashup Editor (verderop)



Google Gadget voorbeeld

```
Editor Preview
File *fetchFeedAsJSON.xml
1 <?xml version="1.0" encoding="UTF-8" ?>
2 <Module>
3   <ModulePrefs title="My Gadget" ... />
4   <Content type="html"> <![CDATA[
5 <!-- HTML... -->
6 <div id=content_div></div>
7 <!-- JavaScript -->
8 <script type="text/javascript">
9   // Use the _IG_FetchFeedAsJSON() function to retrieve feed data
10  _IG_FetchFeedAsJSON(
11    "http://groups.google.com/group/Google-Gadgets-API/feed/rss_v2_0_msgs.xml",
12    function(feed) { // Callback function
13      // Build HTML string that will be displayed in gadget.
14      var html = "";
15      // Access the fields in the feed
16      for (var i = 0; i < feed.Entry.length; i++) {
17        html += "<div>"
18          + "<a target='_blank' href='" + feed.Entry[i].Link + "'>"
19          + feed.Entry[i].Title
20          + "</a></div>";
21      }
22      _gel("content_div").innerHTML = html;
23    }
  ]>
```



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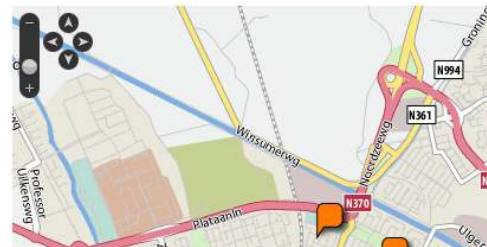


Demo

- <http://localhost/yahoo/index.html>



Map toevoegen



```
<!-- Google -->
<div id="map"></div>
<script type="text/javascript">
    var map = new GMap2(document.getElementById("map"));

    // Show zoom + navigate buttons.
    map.addControl(new GSmallMapControl());
    // Show map, sat and hybrid buttons;
    map.addControl(new GMapTypeControl());

    /// Starting our map in Netherlands.
    map.setCenter(new GLatLng(52.0, 5.0), 7);
</script>
```

```
<!-- Yahoo! -->
<div id="map"></div>
<script type="text/javascript">
    var map = new YMap(document.getElementById('map'));

    // Controls can be added as needed. This control gives us the ability to switch between, map, sat and hybrid mode.
    map.addTypeControl();
    // The next command adds the zoom bar.
    map.addZoomLong();
    // Add the four cursors for navigating north, east, south and west.
    map.addPanControl();
    // Starting our map in Groningen.
    map.drawZoomAndCenter("Groningen, Netherlands", 3);
</script>
```





Marker toevoegen

```
<!-- Yahoo! -->  
<script type="text/javascript">  
  //Create new marker given an address.  
  var marker = new YMarker(address);  
  //Add an auto expand (will expand on mouse over) with the given description.  
  marker.addAutoExpand(description);  
  //Add the marker to the map.  
  map.addOverlay(marker);  
</script>
```

```
<!-- Google -->  
<script type="text/javascript">  
  // translate address to geo-coords (geocoding)  
  geocoder.getLatLng(address,  
    // callback function (asynchronous geocoding)  
    function(point) {  
      var marker = new GMarker(point);  
      map.addOverlay(marker);  
      // add infoWindow text to marker  
      marker.bindInfoWindowHtml(description);  
    } );  
</script>
```



Charting

```
// Make sure the SWF is loaded from the Yahoo website. SWF could also be loaded from the webserver of the local application.
YAHOO.widget.Chart

// Create the datasource. I
var myDataSource =
myDataSource.respond

// Define the fields which
myDataSource.respond
{
  fields: [ "hou
};

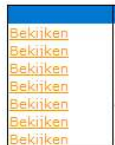
// Array for Google charts simple encoding
var _ec = 'ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz0123456789';

// utility function for simple encoding
function simpleEncode(valArray,maxVal) {
  var chartData = ['s:'];
  for (var i = 0; i < valArray.length; i++) {
    chartData.push(_ec.charAt(Math.round((_ec.length-1) * valArray[i] / maxValue)));
  }
  return chartData.join('');
}

// encode labels: separated by '|'
var encodedXFields = xFields.join('|');

// encode data using utility function
var encodedYFields = simpleEncode(yFields,maxValue);

// build chart URL
var chartURL = 'http://chart.apis.google.com/chart?'
+ '&cht=bvs' // chart type: bar chart
+ '&chd=' + encodedYFields //data
+ '&chs=400x400' // graph size in pixels
+ '&chbh=10' //width of bars in pixels
+ '&chl=' + encodedXFields; // labels
```





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Mashup Tools

On-line:

- Yahoo! Pipes (beta)
- Google mashup server (closed beta)
- Microsoft Popfly (beta)
- Intel Mashmaker (closed beta)
- OpenKapow
- Dapper



Google Mashup Editor



Intel® Mash Maker

The Web the Way you Want it



Open Source:

- WSO2 Mashup Server
- Apatar
- SnapLogic





Commerciële tools



BEA AquaLogic® Pages



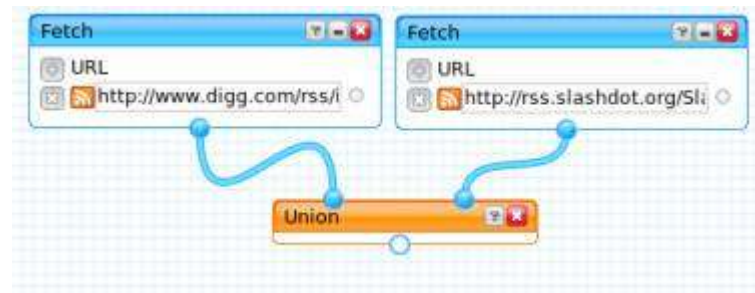
SnapLogic
www.snaplogic.org





Yahoo! Pipes

- Consumeren en combineren van RSS Feeds, Geo feeds
- Output: tekst, image, map
- On-line grafische editor





Yahoo! Pipes voorbeeld

google and yahoo news*

Layout Expand All Collapse All Back to My Pipes New Save

Sources

- Fetch CSV
- Feed Auto-Disco
- Fetch Feed
- Fetch Data
- Fetch Page
- Fetch Site Feed
- Flickr
- Google Base
- Item Builder
- Yahoo! Local
- Yahoo! Search

User inputs

Operators

- Url
- String
- Date
- Location
- Number
- Favorites
- My nines

search (text)

Name: textinput1
Prompt: search
Position: 1
Default: text
Debug: text

URL Builder

Base: http://news.google.
Path elements: text
Query parameters: q: text [wired], ie: UTF-8, output: rss

URL Builder

Base: http://news.search.
Path elements: text
Query parameters: p: text [wired], ei: UTF-8

Fetch Feed

URL: url [wired], url [wired]

Unique

Filter non-unique items based on item.link

Pipe Output

Debugger: Pipe Output (26 items)

Time taken: 0.305712s Refresh

- Dozens killed in 2 Iraq blasts - Los Angeles Times
- Delta, Northwest reach merger deal - Bizjournals.com
- Zimbabwe Protest Fails to Shut Down Capital - New York Times



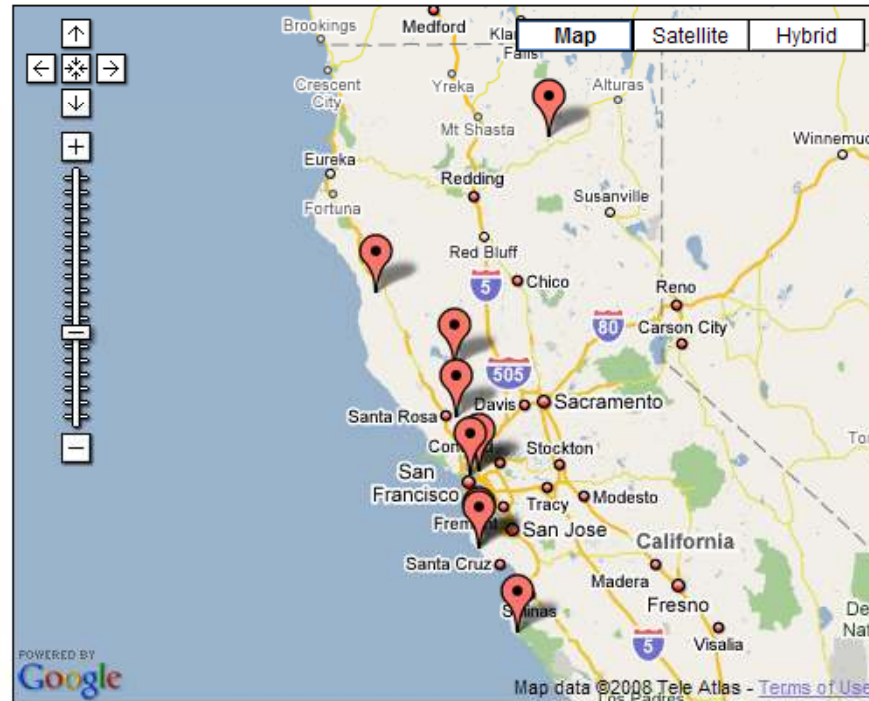
Google Mashup Server

- Standaard sample

[View source](#) | [Sign in](#)

Maps Mashup

Admiral William Standley SRA
Ahjumawi Lava Springs SP
Albany State Marine Reserve
Anderson Marsh SHP
Andrew Molera SP
Angel Island SP
Annadel SP
Ano Nuevo SP
Ano Nuevo SR
Antelope Valley CA Poppy Reserve (SR)
< Previous Next >





Google Mashup Server

- Sample aangepast
- Data van (publieke) ATOM feed
- Bestaat uit 3 stukken code:

My Mashup

<u>Date, time</u>	<u>Address</u>
20/03/2008 09:00:00	Menkemaheerd 85 groningen netherlands
20/03/2008 09:00:45	Violenstraat 12 groningen netherlands
20/03/2008 09:01:01	Het Want 3 groningen netherlands
20/03/2008 09:01:23	Herestraat 35 groningen netherlands
20/03/2008 09:02:10	Grote Markt 18 groningen netherlands
20/03/2008 09:02:34	Eemsgolaan 5 groningen netherlands
20/03/2008 09:02:58	Timorstraat 21 groningen netherlands





Google Mashup Server

1. Code voor item list

My Mashup

Date, time
20/03/200
20/03/200
20/03/200
20/03/200
20/03/200
20/03/200
20/03/200

```
<!-- HTML -->  
<div style="float: left; width: 40%">  
  <!-- MASHUP LIST -->  
  <gm:list id="calls"  
    data="http://spreadsheets.google.com/feeds/li  
    template="gsxTemplate"  
    pagesize="25">  
    <gm:handleEvent src="callMarkers"/>  
  </gm:list>  
</div>
```





Google Mashup Server

2. Template voor item list

My Mashup

Date, time

20/03/2008 09
20/03/2008 09
20/03/2008 09
20/03/2008 09
20/03/2008 09
20/03/2008 09
20/03/2008 09

```
<!-- MASHUP LIST TEMPLATE -->
<gm:template id="gsxTemplate">
  <!-- HTML -->
  <table>
    <tr>
      <td><gm:header sort="datetime">Date, time</gm:header></td>
      <td><gm:header sort="address">Address</gm:header></td>
    </tr>
    <tr repeat="true">
      <td><gm:text ref="gsx:datetime"/></td>
      <td><gm:text ref="gsx:address"/></td>
    </tr>
  </table>
</gm:template>
```



Google Mashup Server

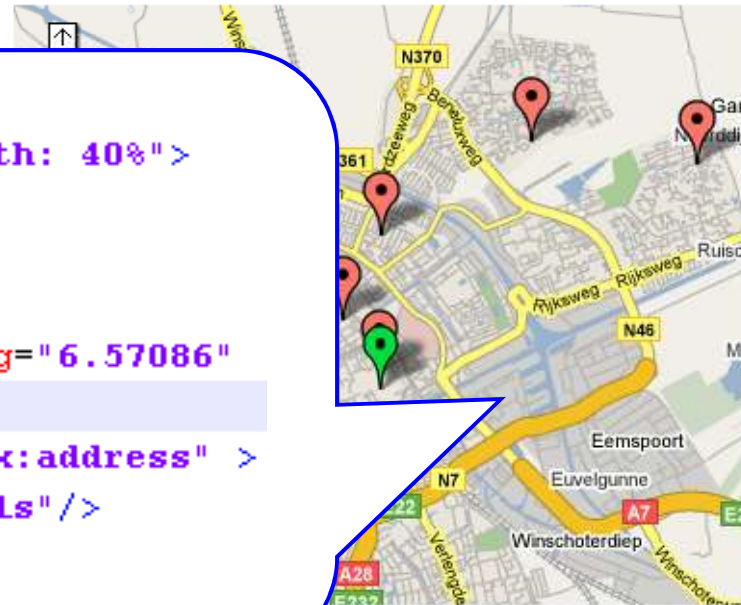
3. Code voor map

My Mashup

Date, time	Address
------------	---------

2005

```
<!-- HTML -->
<div style="float: left; width: 40%">
  <!-- MASHUP MAP -->
  <gm:map id="callMarkers"
         data="{calls}"
         lat="53.232299" lng="6.57086"
         zoom="12"
         geolocationref="gsx:address" >
    <gm:handleEvent src="calls"/>
  </gm:map>
</div>
```





Google Mashup Server

- Totaal ± 30 regels code
- Bouwen in een paar uur
- Alleen publieke datasources (geproxied door Google server)

My Mashup

<u>Date, time</u>	<u>Address</u>
20/03/2008 09:00:00	Menkemaheerd 85 groningen netherlands
20/03/2008 09:00:45	Violenstraat 12 groningen netherlands
20/03/2008 09:01:01	Het Want 3 groningen netherlands
20/03/2008 09:01:23	Herestraat 35 groningen netherlands
20/03/2008 09:02:10	Grote Markt 18 groningen netherlands
20/03/2008 09:02:34	Eemsgolaan 5 groningen netherlands
20/03/2008 09:02:58	Timorstraat 21 groningen netherlands





Google Mashup Server



mashup-maartenbrugman-mash-it
Mash it!

s.vintges@gmail.com

[Account](#) | [Sign out](#)

Search Projects Search t

- Project Home
- Downloads
- Wiki
- Issues
- Source

Created with the Google Mashup Editor.

License: [Apache License 2.0](#)

Labels: [gme](#)

Project owners:
[maartenbrugman](#)

Project members:
[s.vintges](#)

Wiki

Subversion
Repo 100MB
(publiek)

Issue
Tracker





WSO2 Mashup server

- Web service compositie
- Taal: JavaScript op server (Rhino interpreter)
- Services deployen als WS-*, ReST met WSDL 1.1, WSDL 2.0, en AJAX testpagina
- JavaScript client stubs: E4X, AJAX
- Gebaseerd op Tomcat, axis2
- Gericht op enterprise mash-ups
- www.wso2.org



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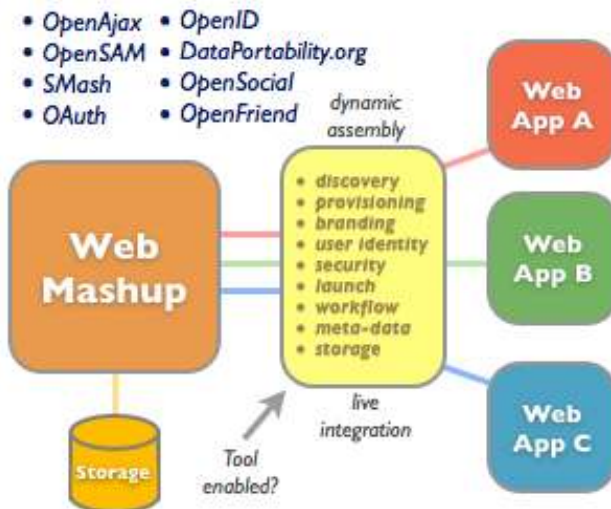
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(Opkomende) standaarden

- OpenSAM (Simple Application Mashups)
 - OLE voor web-applicaties
- OpenAJAX
 - AJAX interoperability
 - OpenAJAX hub
- OpenID
- SMash (Secure Mashups)
 - cross-domain integratie via IFrames
- DataPortability.org
 - Nog vaag; gericht op consumenten

Mashups Move Towards Standards To Create A Consistent “Canvas”





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Mashup aandachtspunten (1)

- Beveiliging (indien nodig)
 - Client-side mashup: per service regelen
 - Server-side mashup: 1x regelen op de mashup-server
 - On-line mashup: zelf regelen
- Beschikbaarheid
 - Server-side mashup: caching mogelijk
 - On-line mashup: internet nodig, datacenter-kwaliteit, geen SLA



Mashup aandachtspunten (2)

- Performance
 - Client-side mashup: offload naar client
 - Server-side mashup: caching, polling mogelijk
 - On-line mashup: internet latency
- Integratie
 - Client-side: mogelijkheden zijn beperkt
 - Server-side: veel mogelijk
 - On-line: intranet-services alleen via JSON



Samenvattend



- Mashup = HYPE, adoptie = snel (Gartner)
- Belofte: Doe-Het-Zelf door Information worker
- Grote spelers komen met tools
- Client vs Server vs On-line





Meer informatie

- Websites

- <http://www.programmableweb.com/>
- <http://mashable.com>
- <http://blogs.zdnet.com/Hinchcliffe/?p=111>

- Mashups

- <http://www.swisstrains.ch>
- <http://www.treelz.com>
- <http://misdaadkaart.nl/>