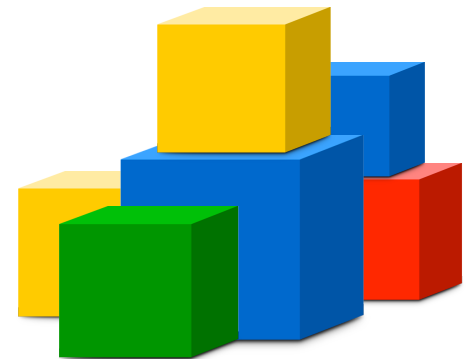


Google™

Google Developer Day 2008

Empowering your Web applications with Gears and HTML 5

Dion Almaer
September 16th, 2008





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 Articles (203)
 Atlas (5)
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 Books (27)
 Browsers (127)
 Builds (4)
 Business (15)
 Calendar (12)
 Canvas (47)
 Chat (22)
 Cloud (2)
 ColdFusion (10)

Friday, June 6th, 2008

An interview with 280 North on Objective-J and Cappuccino

Category: [JavaScript](#) , [Library](#) , [Toolkit](#) , [Podcast](#)

As I say in [this podcast interview](#), I got an early look at [280 Slides](#) the application that launched yesterday to much acclaim. People are calling it "Keynote on the Web", which the team finds very humbling, and hope that one day they have all of the great features (and more!).

As you can [hear from the interview](#) I sit down with Ross Boucher, Tom Robinson

ACTIVITY STREAM

Keep up to date on Ajax content via [Twitter](#)

- A quote from Joe Gregorio
- Geohash for spatial index and search
- Why HTML
- An interview with 280 North on Objective-J and Cappuccino
- 280slides and Objective-J
- LHCountdown.com
- Petition to Save Bletchley Park
- Could Zeppelins soon grace our skies again?

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ABOUT THE AJAX EXPERIENCE



The Ajax Experience - Over 500 web developers and designers attended TAE in 2007 - 98% said they'd recommend it to a

Developer Resources



[APIs & Developer Tools](#)

Everything you need to start your project, including developer guides, forums, and tutorials.



[Open Source Programs](#)

Find out about Google's Open Source programs, Summer of Code, and projects we've released.



[Project Hosting](#)

Starting your own Open Source project? Let Google host the code and documentation for you, free.

[More resources »](#)

Featured News



And Google I/O is finally here...

Two days of in-depth, technical sessions on how to build the next generation of web applications with Google and open technologies.

[Read more »](#)

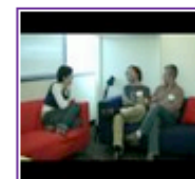


Developer Video



[GTUG - Dick Wall s...](#)

Posted on 6/7/2008



[Interview with the...](#)

Posted on 6/7/2008

[More videos »](#)

Community

Featured Projects



Vision Jinx Networks

Author: Vision Jinx

Google APIs

Blogs

Google Code Blog



[SSL Certificate Renewal for Project Hosting on Google Code](#)

Jun 6, 2008 - By Ben Collins-Sussman, Open Source Team

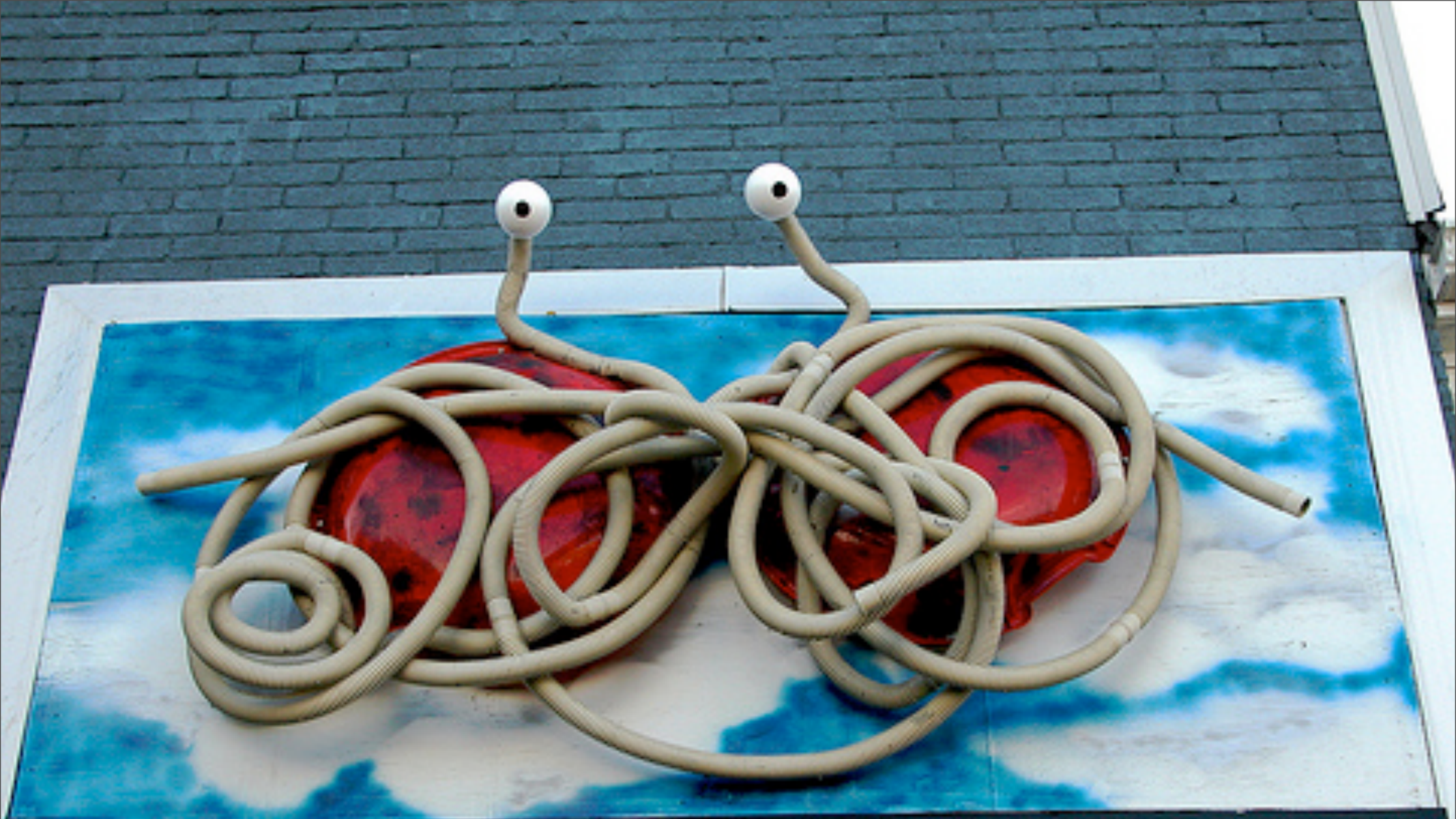
If you have open source projects hosted on Google Code, you may have noticed that the SSL certificate changed for th...

[Announcing Data-Intensive Scalable Computing in Education Workshop](#)





Interesting, passionate, times



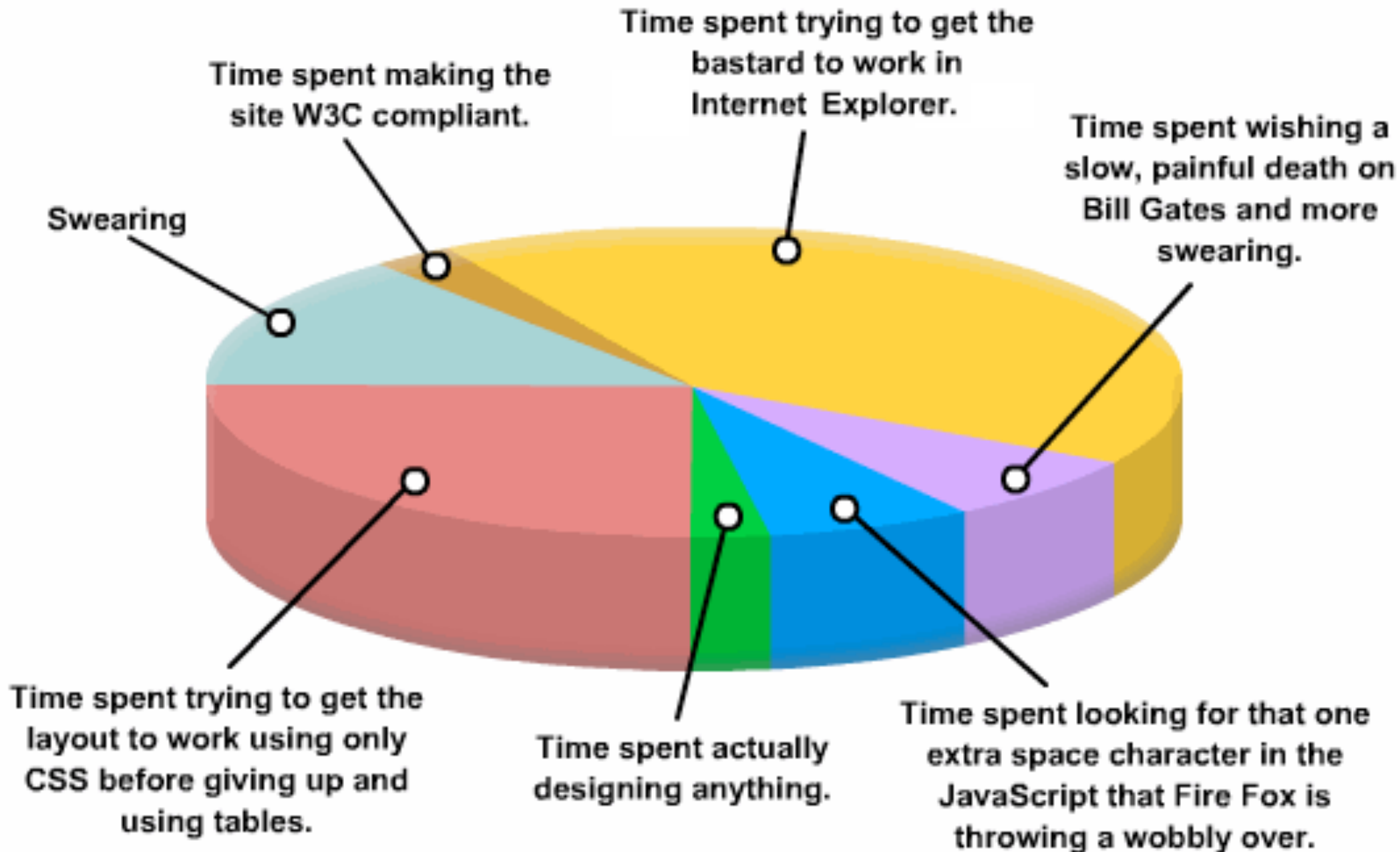
BELIEVE



We
Believe...

The Web is the platform of today,
and of the future

TIME BREAKDOWN OF MODERN WEB DESIGN



The Past



- Home
- All items (1000+)
- Starred items
- Shared items
- Trends
- Add subscription Browse »
- Show: updated - all Refresh
- apple (1000+)
- blogs (797)
- development (1000+)
- dion (140)
 - Ajaxian (51)
 - Apple Software (Ta-da...
 - del.icio.us/dion (42)
 - Google Code - Feature... (4)
 - Google Code - Updates (10)
 - Google Gears API Blog (1)

blogs

Show: 797 new items - all items Mark all as read Refresh

☆ Jason Lefkowitz	Why I Built A New Computer - To play Team Fortress	7:25 AM	»
☆ Steve Muench	Current Story on Migration of 10.1.3 Regions to 11g	4:58 AM	»
☆ Matt Cutts	Engineering grouplets at Google - Google engineer	1:40 AM	»
☆ Gavin King	Seam 2 support in JBoss Tools - Last nights build of	12:46 AM	»
☆ Richard McManus	Weekly Wrapup, 15-19 October 2007 - Sponsor:	Oct 21, 2007	»
☆ Sam Ruby	Happy Birthday, Feed Validator - The Feed Validator	Oct 21, 2007	»
☆ John Musser	Enterprise Mashup Challenges - In another one of	Oct 21, 2007	»
☆ Erik Thauvin	The Rock - [@210]The Rock Our second time here.	Oct 21, 2007	»
☆ Romain Guy	A380 over San Francisco - I shot those pictures two	Oct 21, 2007	»
☆ Jeremy Keith	Closed open data - I arrived in San Francisco	Oct 21, 2007	»
☆ Alan Williamson	Grand Prix Snooker Final: Fu vs. O'Sullivan - The	Oct 21, 2007	»
☆ Bruce Schneier	Detecting Restaurant Credit Card Fraud with	Oct 21, 2007	»
☆ Matt Raible	Beautiful - This has to be cutest picture I've ever	Oct 21, 2007	»
☆ Filippo	No hackers, just providers! (aka Upgrading stories,	Oct 21, 2007	»
☆ Matt Raible	First Snow! - It usually snows in September in	Oct 21, 2007	»

What does offline mean?

Why?

“How often are you on a plane?”



- Reliability
 - 1% of downtime can hurt at the wrong time
- Performance
 - Local acceleration
- Convenience
 - Not having to find a connection
- *You are offline more than you think!*

A composite image showing a tortoise's shell and head merged with a rhinoceros's body and head. The tortoise's shell is on the left, and the rhinoceros's head and body are on the right, appearing to emerge from the shell. The background is a blurred green field and a sandy ground.

We believe...

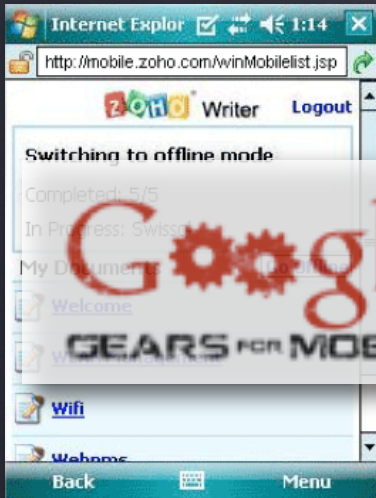
It takes too long to update the Web



Offline Web via Open Web

- Why just solve this problem for Google?
- Why not solve it for others?
- *Solution:* Make it open source with a liberal license
 - New BSD

Platforms



The Gears Philosophy

One application, one URL

Transition

Google Reader (1000+)

http://www.google.com/reader

Gmail Calendar Documents Photos Reader Web more

dalmaer@gmail.com | Settings | My Account | Help | Sign out

Google Reader

All items

Status: Downloading 2000 items...
93% completed. Please wait...
Cancel

blogs

Show: 663 new items - all items Mark all as read Refresh

☆ Richard McManus	Facebook Targets Chinese Market -	7:49 AM	»
☆ Brian McCallister	Library Versioning, Redux - I am a big	7:25 AM	»
☆ Richard McManus	The Olympics Go Mobile - The Summer	6:29 AM	»
☆ Bruce Schneier	New Technology to Detect Chemical,	6:18 AM	»
☆ Alan Williamson	java.lang.InternalError at	2:46 AM	»
☆ Richard McManus	Mainstream Web Watch:	2:10 AM	»
☆ John Musser	Monetize Chat Apps with AIM Money -	11:26 PM	»
☆ Matt Cutts	Short article of free SEO tips -	10:54 PM	»
☆ Douglas Purdy	New Version of FFSync - FFSync v0.5	10:47 PM	»
☆ Graham Glass	Lanterns - I recently purchased a couple	9:51 PM	»
☆ Richard McManus	Twitter Has Culture - Twitter is one of	9:37 PM	»
☆ Eric Gunnerson (C#)	Looj Review - As many of you know, we	Jun 22, 2008	»
☆ Martin Fowler	Refactoring HTML is published -	Jun 22, 2008	»
☆ Jason Lefkowitz	The Big Picture - Boston.com, the Web	Jun 22, 2008	»
☆ Richard McManus	Too Many Windows Live Services are	Jun 22, 2008	»
☆ Douglas Purdy	The MPG Illusion - This is a great	Jun 22, 2008	»
☆ Jeremy Keith	Supernova 2008 - San Francisco. A	Jun 22, 2008	»
☆ Michael Mahemoff	Tools Europe - Pre-Workshop	Jun 22, 2008	»
☆ Michael Mahemoff	What is OpenSocial? - I just realised	Jun 22, 2008	»

Home

All items (1000+)

Starred items ☆

Trends

Your stuff

Shared items

Notes

Friends' shared items (537)

Ara Pehlivanian (115)

Dimitri Glazkov (33)

Bob Lee (111)

Steve Jenson (55)

Evgenios Skitsanos (10)

Carlos Villela (88)

Manage friends »

Add subscription Discover »

Show: updated - all Refresh

apple (939)

blogs (663)

development (1000+)

dion (265)

external (283)

qdd07au

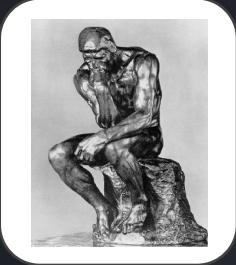
Manage subscriptions »

Previous item Next item

more than 60 items



Useful when connected



What is the philosophy?

Ajax Libraries
Dojo, jQuery, Prototype, GWT

XMLHttpRequest

Open Web

Gears Libraries
Dojo Offline, GWT

Gears

Open Web



LocalServer

Cache and serve application resources (HTML, JavaScript, images, etc.) locally



Database

Store data locally in a fully-searchable relational database



WorkerPool

Make your web applications more responsive by performing resource-intensive operations asynchronously



Database



```
var db = google.gears.factory.create('beta.database', '1.0');
db.open('database-demo');

db.execute('create table if not exists Demo (Phrase varchar(255),
Timestamp int)');
db.execute('insert into Demo values (?, ?)', [phrase, currTime]);

var rs = db.execute('select * from Demo order by Timestamp desc');
while (rs.isValidRow()) {
    var name = rs.field(1);
    console.log("Your name is: " + name);
    rs.next();
}
rs.close();
```



GearsDB

Abstract over the API

```
var bob = {id: 3, name: 'Bob', url: 'http://bob.com', description: 'whee'};
db.insertRow('person', bob);
db.insertRow('person', bob, 'name = ?', ['Bob']);

db.selectAll('select * from person', null, function(person) {
    document.getElementById('selectAll').innerHTML += ' ' + person.name;
});

var person = db.selectRow('person', 'id = 1');

// update
person.name = 'Harry';
db.updateRow('person', person);

// force
person.name = 'Sally';
db.forceRow('person', person);

db.deleteRow('person', bob);
```



GearsORM

Abstract over the API

```
var Person = new GearsOrm.Model("Person", {
  firstName: GearsOrm.Fields.String({maxLength:25}),
  lastName: GearsOrm.Fields.String({maxLength:25})
});
```

```
GearsORM.Transaction(function() {
  new Person({name:"John"}).save();
  new Person({name:"Doe"}).save();
});
```

```
Person.select("firstName = 'Uriel'");
Person.count("lastName = ?", ["Katz"])
```

“While developing transaction support for GearsORM i had to write a test, in that test it execute 100 inserts and 100 updates, this test take about **15 seconds** for the inserts and about **10 seconds** for the updates without transactions,when using transactions for each set it takes about **377ms** for the inserts and **200ms** for the updates that is about **39** times faster!”



GearShift

DB Migrations

```
Gearshift.rules[1] = {
  // create the demo table
  up: function() {
    return this.e("CREATE TABLE demo_table (
      id INTEGER PRIMARY KEY
      AUTOINCREMENT,
      name VARCHAR(30),
      movie VARCHAR(30)
   )").success;
  },
  down: function() {
    return this.e("DROP TABLE demo_table").success;
  }
};
```



Database Tools

SQL

statement ▾ Execute Explain List Objects

<< >> 10 ▾

No records found.

<< >> 10 ▾

The image shows a screenshot of a database tool interface. At the top left, there is a blue tab labeled 'SQL'. Below the tab is a light blue header bar containing a dropdown menu with 'statement' and three buttons: 'Execute', 'Explain', and 'List Objects'. The main area is a large white text box. At the bottom of the interface, there is a pagination control with '<<' and '>>' buttons, a dropdown menu showing '10', and a text box containing 'No records found.' Below this, the pagination control is repeated with '<<', '>>', and '10'.



Database Tools

Gears In Motion

GIM : Gears In Motion, a simple tool for your gears databases !

Gears In Motion

Change database

Database: **rugbyDB**

Tables :

countries	X
clubs	X
players	X
clubs_players	X

+ Add a table

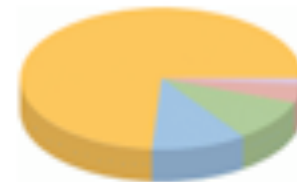
↓ Export

Please visit [the GIM website](#) for any comment, bug report or feature request.

[Summary](#)[New transaction](#)[Transactions](#)[Analysis](#)[More ▾](#)[Accounts](#)[Tags](#)[Contacts](#)[Groups](#)[← Back](#)Net balance: **+** [\\$43,080.46](#)Recent expenses: **-** [\\$1,928.24](#)Bank of America  43,080.46

Amex | 0.00

Wallet | 0.00

[Add account](#)[Manage](#)

Rent

Home

Food-n-Drinks

Superstores

Grocery

[Jan 08]

Quick links

» [Import transactions](#)» [Budgets](#)» [Mobile phone access](#)**Tip** new | disable

[Import](#) bank and credit card statements into your account

[Delete](#) [Edit tags ▾](#) [More actions ▾](#)

1 - 10 of 66

[>](#) [>>](#) [Description ▾](#)[Expense ▾](#)[Date ▾](#)

sort: desc

 PAYCHECK #4487

Bank of America (no tags)

Actions ▾

+ 5,742.29

Today

 01/07/2008 PAYMENT #4905

Bank of America → Amex (no tags)

Actions ▾

± 2,821.15

Today

 RENT

Amex Rent

Actions ▾

- 1,423.49

Today

Buxfer



Full Text Search

- Gears added FTS2 to SQLite

- Create the database

```
db.execute('CREATE VIRTUAL TABLE recipe USING  
fts2(dish, ingredients)');
```

- Search the database

```
db.execute('SELECT dish FROM recipe WHERE recipe  
MATCH ?', ['tomatoes']);
```

Fun queries: *dish:stew tomatoes*

Find rows with 'stew' in the dish field, and 'tomatoes' in any field.

Note:

This tool currently routes all Digg API requests through my personal web server. Due to the 'Digg Effect', the server may experience outages. If you have any issues, try back in a day or two.

What is it?

This tool will search Digg.com for your entire voting history, then download the details for each story. Once downloaded, stories are indexed in a local SQLite database via Google Gears. This allows you to perform search queries on your Digg history without having to connect to Digg's servers.

First Time

The first time you use it, you will need to do a one-time full sync. This may take some time, so please be patient. Modern computers can index 1,000 stories in about 15 minutes. Obviously, the time it takes to sync depends on how many stories you have Digg.

Please type in your Digg user name:



See Degrees Now



Think You Are Too Busy to Go Back to School?
Graduate Online in as Fast as 13 Months!

Select Your State

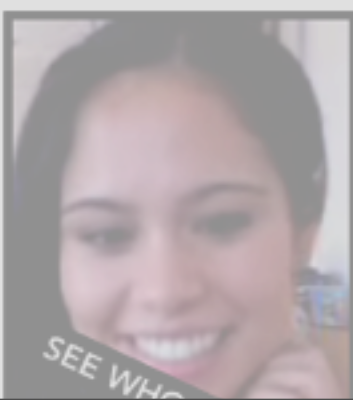
© 2008 LowerMyBills.com

powered by Google

Mail Center
Inbox

Bright Idea: [Upload more pictures. [Upload Now.](#)]

-
-
-
-
-
-
-
-
-
-
-



Search Off

Listing 1-2 of 2 1 of 1










<input type="checkbox"/>	Date:	From:	Status:	Subject:
<input type="checkbox"/>	02/24/2008 07:20:00	 Alison	Replied	RE: Maxi Le Big Mac
<input type="checkbox"/>	03/20/2008 04:22:00	 sacha	Read	RE: No Subject

Listing 1-2 of 2 1 of 1

Sponsored Links

Movie Watching
 Save on Popcorn Makers.
 Compare & Buy from 1000's of
 Stores
www.Shopping.com

Who's Online?

-  [Ming-O-M...](#)
Send Message
-  Online Now!
-  [Captain ...](#)
Send Message
-  Online Now!
-  [Lotus](#)
Send Message
-  Online Now!
-  [Jennifer](#)
Send Message
-  Online Now!
-  [\[C\]](#)
Send Message



Address Not Found



Firefox can't find the server at www.google.com.

The browser could not find the host server for the provided address.

- Did you make a mistake when typing the domain? (e.g. "ww.mozilla.org" instead of "www.mozilla.org")
- Are you certain this domain address exists? Its registration may have expired.
- Are you unable to browse other sites? Check your network connection and DNS server settings.
- Is your computer or network protected by a firewall or proxy? Incorrect settings can interfere with Web browsing.

Try Again

Local Server

A mini-web server that groks 200 and 304



ResourceStore

Manual capture

```
var pageFiles = [ location.pathname, 'gears_base.js', 'foo.html' ];

try {
    localServer = google.gears.factory.create('beta.localserver', '1.0');
} catch (e) {
    alert('Could not create local server: ' + e.message);return;
}

var store = localServer.openStore(this.storeName) ||
            localServer.createStore(this.storeName);

store.capture(pageFiles, function(url, success, captureId) {
    console.log(url + ' capture ' + (success ? 'succeeded' : 'failed'));
});
```



ManagedResourceStore

JSON Me!

```
{
  "betaManifestVersion": 1,    // version of the manifest file format

  "version": "my_version_string",

  // optional
  // If the store specifies a requiredCookie, when a request would hit
  // an entry contained in the manifest except the requiredCookie is
  // not present, the local server responds with a redirect to this URL.
  "redirectUrl": "login.html",

  // URLs to be cached (URLs are given relative to the manifest URL)
  "entries": [
    { "url": "main.html", "src": "main_offline.html" },
    { "url": ".", "redirect": "main.html" },
    { "url": "main.js" }
    { "url": "formHandler.html", "ignoreQuery": true },
  ]
}
```

Express yourself. Start a blog.

See our free features »

Sign Up Now!

Google Gears Status

Google Gears is installed on this computer but is not enabled for use with WordPress.

To enable it, make sure this web site is not on the denied list in Google Gears Settings under your browser's Tools menu, then click the button below.

However if this is a public or shared computer, Google Gears should not be enabled.



Enable Google Gears

Cancel

Google Gears Status

Google Gears is installed and enabled on this computer. You can disable it from your browser Tools menu.

If there are any errors, try disabling Gears, then reload the page and enable it again.

Local storage status: **Please wait! Updating files:** 81 / 180



Close







Workerpool API

```
function nextPrime(n) {
    // TODO: New top-secret prime-finding algorithm goes here.
    google.gears.workerPool.sendMessage(result);
}

var pool = google.gears.factory.create('beta.workerpool', '1.0');
pool.onmessage = function(message) {
    alert('next prime is: ' + message);
}

var worker = pool.createWorker(String(nextPrime) + '; nextPrime
()');
```

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Upload

Gears and the Mashup Problem



Rate: ★★★★★ 7 ratings

Views: 973

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Playlists

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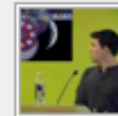
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Facebook

[\(more share options\)](#)

Google engEDU Tech Talks Channel



From: [googletechtalks](#)

Joined: 10 months ago

Videos: 812

Subscribe

Added: **October 08, 2007** [\(More info\)](#)

Google Tech Talks
September, 20 2007

ABSTRACT

Mashups are the most interesting innovation in software development in decades. Unfortunately, the browser's security model did not anticipate this develo...

Embed:

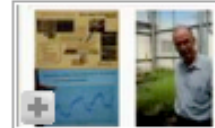
[Customize](#)

```
<object width="425" height="344"><param name="movie" value="h
```

More From: [googletechtalks](#)



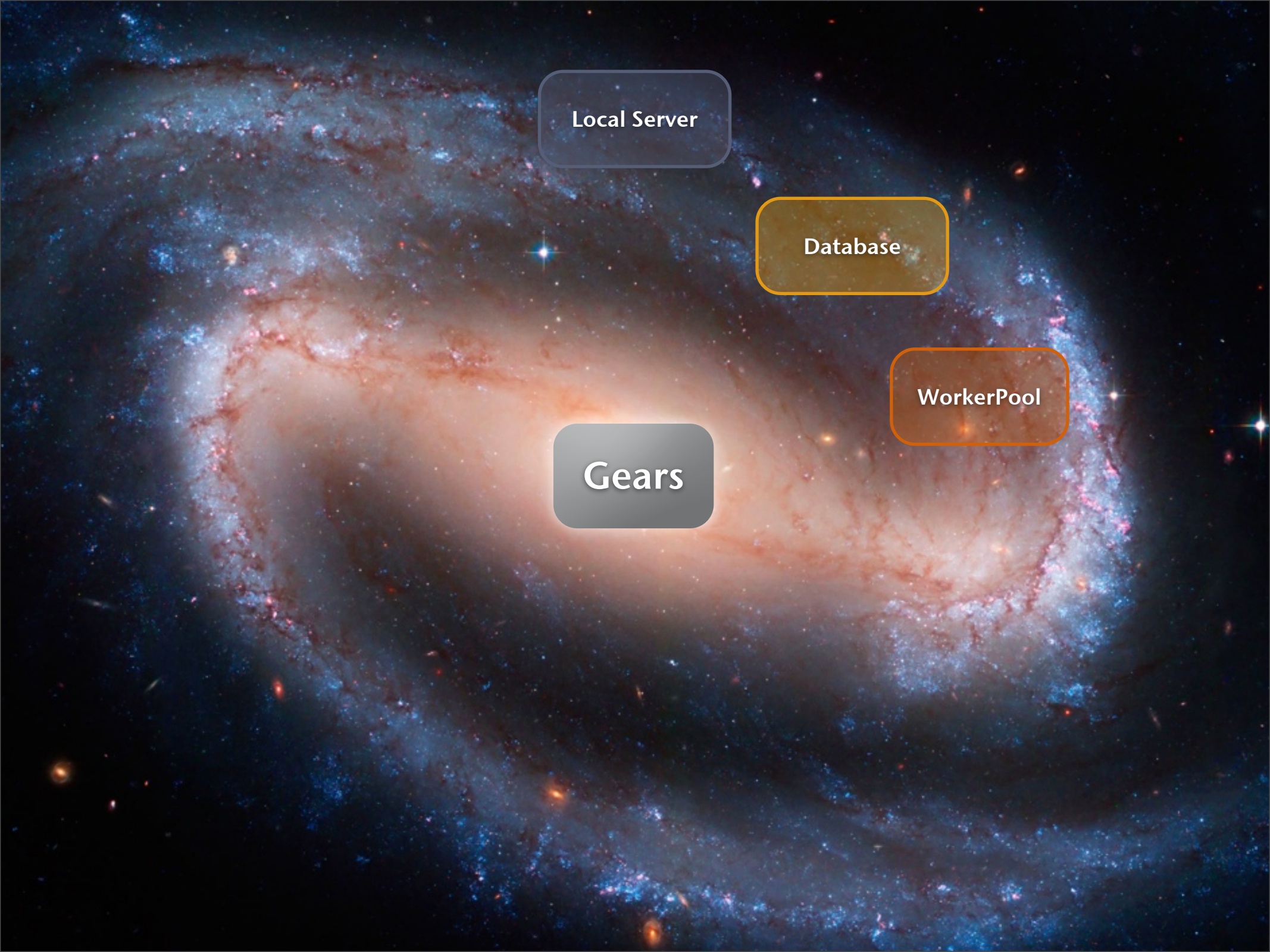
Simple Interactive 3D modeling for all
52:51 From: [googletechtalks](#)
Views: 881



2 girls + 7 months + 17 countries + more than 200 encounters = the Energy Wor...
55:39 From: [googletechtalks](#)
Views: 385



Spam, Phishing, and Online Scams: A View from the Network-Level
01:06:18 From: [googletechtalks](#)

The background is a vibrant, multi-colored image of a galaxy, likely the Whirlpool Galaxy, showing intricate spiral patterns in shades of blue, orange, and white against a dark cosmic background. Overlaid on this are four semi-transparent, rounded rectangular text boxes. The 'Local Server' box is at the top center, 'Database' is to its right, 'WorkerPool' is further right and lower, and 'Gears' is at the bottom center.

Local Server

Database

WorkerPool

Gears



Gears API Blog

Keep up to date on Gears

Gears 0.4 is here!

8/22/2008 12:15:00 AM

Posted by Andrei Popescu, Gears Engineer

But where exactly is 'here'? Well, that's a question that takes on a whole new meaning with this new release of Gears: we have added a new [Geolocation API](#), which allows you to build applications that can do new and exciting things based on your users' location. You can query Gears for the user's current location using the `getCurrentPosition()` method or you can ask Gears to notify you every time the location changes, using the `watchPosition()` method. Of course, we take privacy issues very seriously, which is why we have a special permission dialog that allows users to decide which Web sites should have access to their location information. If you want to learn more about how the Geolocation API works, please see the [Google Code blog post](#).

Another cool new feature is the [Blob API](#). Unlike strings, blobs let you reference arbitrary binary data — a first for JavaScript! Therefore, blobs can more naturally represent things like files and images, and they can be passed around efficiently. We have updated several existing APIs to work with blobs, such as `WorkerPool.sendMessage()` and `HttpRequest.send()`. And that's not all! We have also extended the [Desktop API](#) with a new method, `openFiles()`, which allows users to select multiple files of a particular content type, and then returns them as blobs for easy uploading or worker processing.

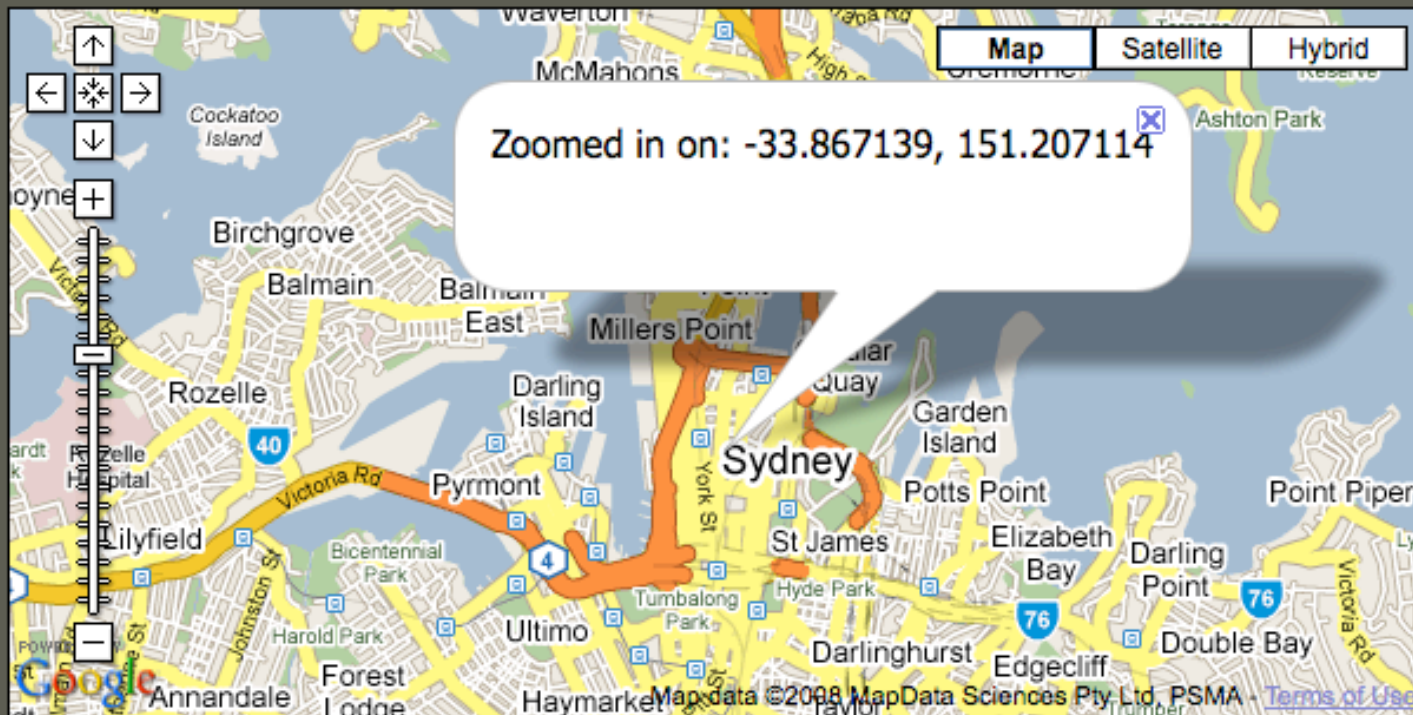
Catching up to the present



Geolocation API

Even on a laptop?

I think that you are talking to me from...



This version uses the [HTML5 Geolocation spec API](#) across Gears and ClientLocation. You can also see my [first version that just uses the ClientLocation API](#).



Geolocation API

Even on a laptop?

```
// Getting the object
var location = google.gears.factory.create("beta.location",
"1.0");

// Setting up a callback to handle "location changed" events
location.onlocationstatechanged = function() {
    if (this.state == COMPLETE) {
        setStatusText("Location accuracy:", this.accuracy);
        MoveMap(this.latitude, this.longitude);
    }
}

location.startLocationUpdates();
```



Desktop API

Shortcuts and beyond

```
var desktop = google.gears.factory.create('beta.desktop');
desktop.createShortcut("Test Application",
    "An application at http://test.com/index.html",
    "http://test.com/index.html",
    { "16x16": "http://test.com/icon16x16.png",
      "32x32": "http://test.com/icon32x32.png",
      "48x48": "http://test.com/icon48x48.png",
      "128x128": "http://test.com/icon128x128.png"});
```

Multi-Video Upload

Each video can be up to 10 minutes in length and up to 1GB in size. These videos will be available in [My Videos](#) after they have finished processing. It may take 30 minutes or more for extremely large files to appear on your My Videos page.

Go back to [Single File Upload](#).

Filename	Title	Options	Status
		---	No videos added

Gears Security Warning

The website below wants to store information on your computer using Gears.

YouTube Multi-Video Upload
<http://www.youtube.com>

The YouTube multi-video upload feature requires Gears.

I trust this site. Allow it to use Gears.

[Never allow this site](#)

Do not upload any TV shows, music videos, music concerts, or commercials without permission unless they consist entirely of content you created yourself. Please refer to our [Copyright Tips](#) page for some guidelines and links to help you determine whether your video infringes someone else's copyright.

By clicking "Upload Video," you are representing that this video does not violate YouTube's [Terms of Use](#) and that you own all copyrights in this video or have express permission from all copyright owners to upload it. Remember that your use of this uploader is also governed by our [Terms of Use](#).

Don't you want a better File Upload?

View Action

New Folder Refresh Preview Synchronize Sidebar Disconnect Stop

Your Stuff Search

dalmaer

Favorites Connect

Name	Size	Date
automator	--	Friday, Mar 2, 2007, Mar 2 @ 2:01 AM
bin	--	Wed, Oct 31, 2007, Oct 31 @ 10:07 PM
Desktop	--	Mon, Dec 10, 2007, Dec 10 @ 11:22 AM
Docs.php	25 KB	Thu, Nov 29, 2007, Nov 29 @ 10:57 AM
Documents	--	T
IdeaProjects	--	S 7 PM
Library	--	M 7:15 PM
Media	--	T
Movies	--	Thursday, December 6, 2007, Dec 6 @ 10:44 AM
Music	--	Thursday, August 2, 2007, Aug 2 @ 10:21 AM
Pictures	--	T :22 PM
Projects	--	F 0:56 PM
Public	--	T 33 AM
Sites	--	M :38 AM
WebShells	--	Wed, Feb 20, 2007, Feb 20 @ 10:55 PM

File System API

Blob API

Resumable HTTP

Server:

User Name:

Password:

Initial Path:

Port:

Protocol:

Connect

your stuff. (15 items)

connect.

Status: Idle

Don't you want a better File Upload?



Geolocation and Resumable/Large/Multiple File Uploads Demo

This demo allows you to select multiple movies, and then upload them in a resumable way with feedback using the Gears Blob and File API to figure out what your location is for tagging the video, and the Google App Engine to store everything on the back-end. Videos will be uploaded automatically, and only you can view your own videos to avoid copyright issues on this demo app. Due to current limitations in the Google App Engine, videos must be less in size, while your total quota of uploaded videos must be less than 5 MB.

Your location: Sydney, NSW, Australia (-33.867139, 151.207114)

Select movies to upload:

Filename	Location	Status	Uploaded
----------	----------	--------	----------



Upload Sample

Desktop File Reference API

```
var desktop = google.gears.factory.create('beta.desktop');
desktop.openFiles(
  function(files) {
    for (var i = 0; i < files.length; i++) {
      var entry = {filename: files[i].name, uploaded: false,
                  length: files[i].blob.length,
                  blob: files[i].blob, bytesUploaded: 0,
                  geoAddress: self.geoAddress_, uploadRetries: 0};
      ....
    },
    { filter: ['video/quicktime', '.wmv', 'video/avi'] }
  );
```



Upload Sample

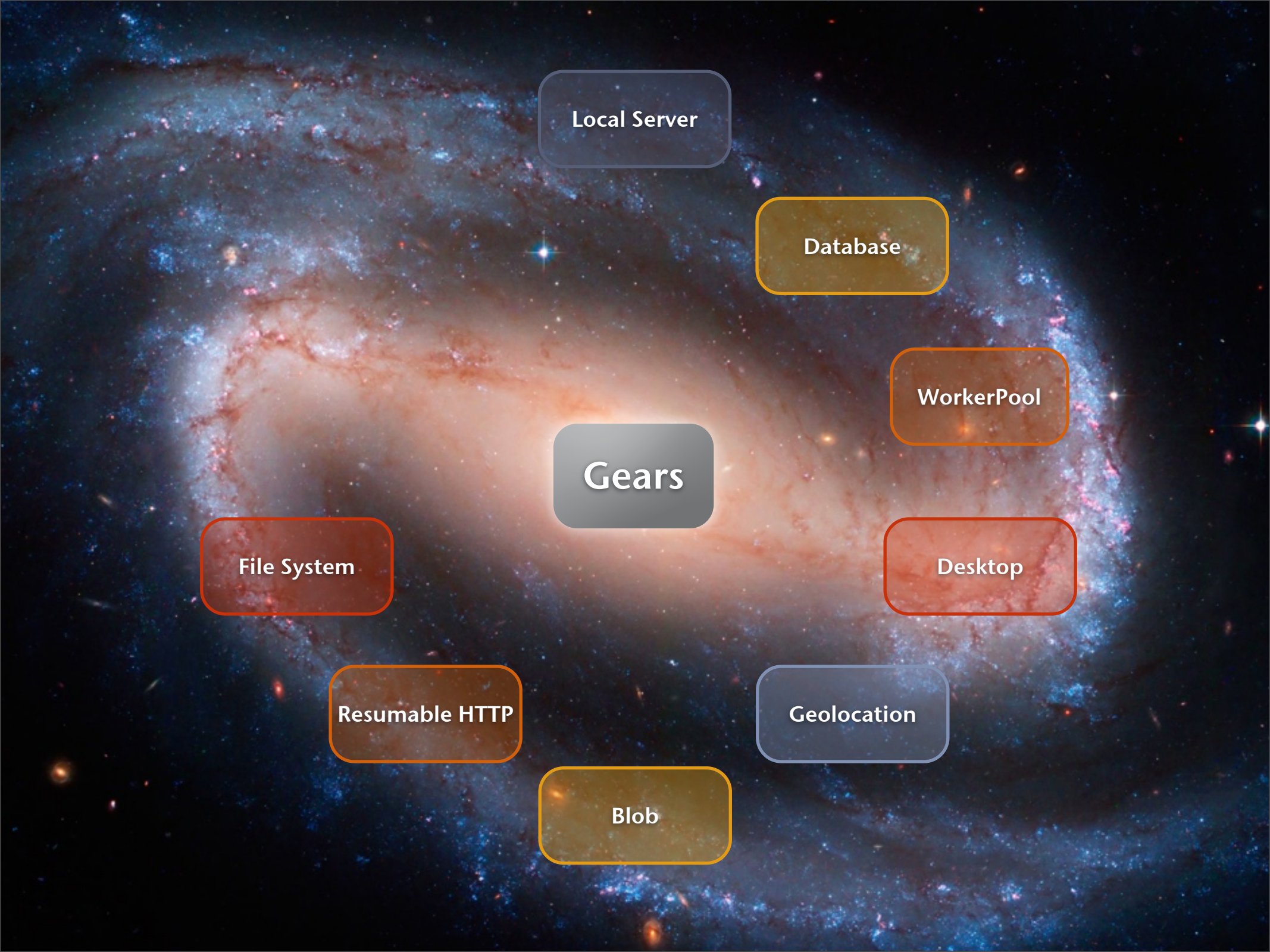
Resumable HTTP

```
var req = google.gears.factory.create('beta.httprequest');

var uploadURL = '/upload';
req.open('POST', uploadURL);

req.setRequestHeader('Content-Disposition',
                    'attachment; filename="' + fileName + '"');
req.setRequestHeader('Content-Type', 'application/octet-stream');
req.setRequestHeader('Content-Range', 'bytes ' + byteRange);

req.onreadystatechange = function() {
  // update status messages etc
}
```



Local Server

Database

WorkerPool

Gears

File System

Desktop

Resumable HTTP

Geolocation

Blob



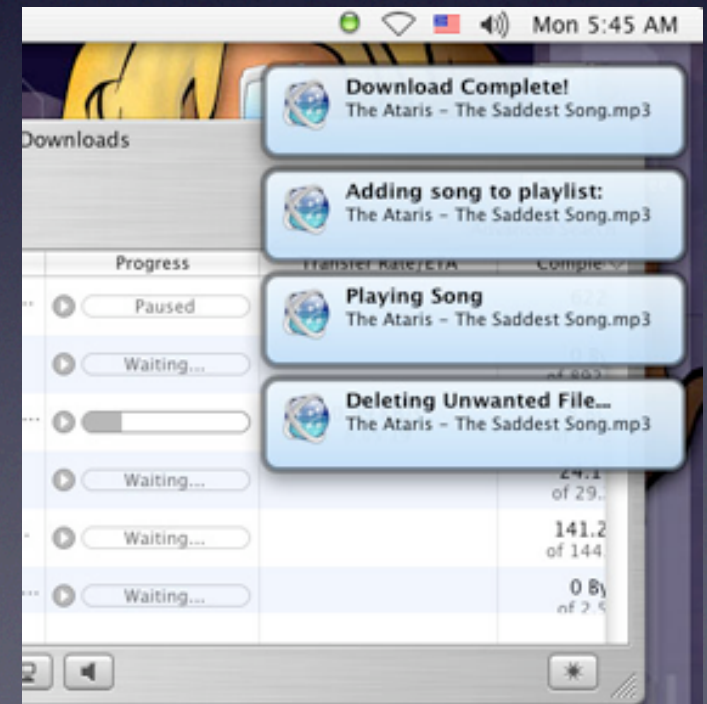
Growl

Notification API

Growl for the Web

```
var notifier = google.gears.factory.create('beta.notifier', '1.0');
```

```
notifier.notify({  
  application: "My App",  
  title: 'warning',  
  description: 'some text',  
  priority: 2,  
  sticky: 'True',  
  password: 'Really Secure',  
});
```





Audio API

Play and Record

// play

```
var audio = google.gears.factory.create('beta.audio');  
audio.src = 'http://blahblahblob.com/sampleaudio.wav';  
audio.load();  
audio.play();
```

// record

```
var recorder = google.gears.factory.create('beta.audiorecorder');  
recorder.destination = <http post url>  
recorder.autoStream = true;  
recorder.record(); //asynchronous call
```

Future

Present

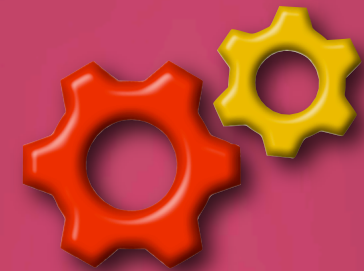
Past

HTML 5



- Standards
- Long term
- All browsers
- No plugin

Gears



- Implementation
- Battle hardened
- A place for innovation
- Cross browser
- Plugin

A bleeding edge version of HTML 5!

HTML 5 and Gears

Workerpool

Geolocation

Database

Local Server

Gears APIs

HTML 5 Web Workers

W3C Geolocation

HTML 5 Local Storage

HTML 5 Offline Store

Standards

HTML 5 in General



Ian (Hixie) Hickson
Standards Editor, Google Employee

<video>

<audio>

<canvas>

<time>

<progress>

<meter>

<menu>

<input type="email | date |
min | max | required"... >

postMessage

Drag and drop

Local Server

Audio

Database

Notification

WorkerPool

Gears

*A bleeding
edge version
of HTML 5!*

File System

Desktop

Resumable HTTP

Geolocation

Blob

What if popular JavaScript libraries were available and shared in the browser?

1 Now hosting open source JavaScript libraries at Google

Starting with: Prototype, Script.aculo.us, jQuery, Dojo, Mootools

Accepting requests for other open source libraries

Can access directly:

```
ajax.googleapis.com/ajax/lib/prototype?v=1.6.0.2&packed=false
```

Can access via AJAX API Loader:

```
google.load("prototype", "1.6");
```

2 Other features

Automatic compression

Minification of libraries

Not tied to Google Code

Learn more

<http://code.google.com/intl/uk/>



Google™