

Google™



Connecting your Enterprise Applications with Google Docs & Sites

Eric Bidelman & Vijay Bangaru
Google

Matthew Tonkin
Memeo

5/20/2010



**View live notes and ask questions about
this session on Google Wave**

<http://bit.ly/bp2sTC>

Welcome

Today



Documents List Data API



Google Data (APIs) Protocol



Sites Data API

Google Data Protocol

20 Data APIs and counting...



[Google Analytics Data Export API](#)



[Google Apps APIs](#)



[Google Base Data API](#)



[Blogger Data API](#)



[Google Booksearch Data API](#)



[Google Calendar Data API](#)



[Google Code Search Data API](#)



[Google Contacts Data API](#)



[Google Documents List Data API](#)



[Google Finance Portfolio Data API](#)



[Google Health Data API](#)



[Google Maps Data API](#)



[Picasa Web Albums Data API](#)



[Google Sidewiki Data API](#)



[Google Sites Data API](#)



[Google Spreadsheets Data API](#)



[Google Webmaster Tools Data API](#)



[YouTube Data API](#)

The Protocol



- HTTP, RESTful, ETags
 - GET/POST/PUT/DELETE (e.g. full CRUD)
 - **PATCH** (or your own verbs)

The Protocol



- HTTP, RESTful, ETags
 - GET/POST/PUT/DELETE (e.g. full CRUD)
 - **PATCH** (or your own verbs)
- ATOM Publishing Protocol, XML, JSON

The Protocol



- HTTP, RESTful, ETags
 - GET/POST/PUT/DELETE (e.g. full CRUD)
 - **PATCH** (or your own verbs)
- ATOM Publishing Protocol, XML, JSON
- Extends ATOM:
 - authz
 - (
 - OAuth) for desktop/mobile/web apps
 - data model (**<gd:lastModifiedBy>**)
 - batch operations
 - formats: **json, json-in-script, rss, jsonc**
 - partial retrieval/update of data
 - versioning: **GData-Version: 3.0**

Client Libraries

.NET

Java



Objective-C

So what can you build with them...?

Anything!



Why Docs & Sites?



Document List Data API

(aka DocList API, Google Docs API)

API Features: last year's Google I/O



- Folder management
- Sharing (ACLs) @ user level, **<gd:writersCanInvite>**
- Metadata: **<gd:lastViewedBy>**, **<gd:lastModifiedBy>**
- Download docs (export in multiple formats)
- Advanced queries:
 - who: **/-/shared-with-domain**, **/-/mine**, **/-viewed**, **owner**, **writer**, **reader**
 - what: **/-/folder**, **/-/hidden**, **/-/private**
 - where: **showfolders**, **showdeleted**
 - when: **orderby**, **opened-min**, **opened-max**
- ...

Version 3.0

v3.0 Features



- Structured XML error reporting
- Metadata++: **<gd:quotaBytesUsed>**
- Additional parameters for sync clients: **edited-min|max**
- Native PDF upload/download
- Revision History
- Shared Folders
- Domain / Group-level sharing
- Permanently deleting documents
- More RESTful feed URIs

40+% faster!

Launched since v3.0:



- OCR on jpg/png uploads
- translation on upload
- copy command
- change owner
- publishing documents
- root folder operations
- resumable upload
- metadata/user features feed
- upload any file!!
- Google Apps Scripts (<http://bit.ly/docs-apps-script>)

Feeds



<https://docs.google.com/feeds/>

Feeds



<https://docs.google.com/>

Documents List Feed: [/feeds/default/private/full/\[resourceID\]](#)

GET, POST, PUT, DELETE

Feeds



<https://docs.google.com/>

Documents List Feed: [/feeds/default/private/full/\[resourceID\]](#)

GET, POST, PUT, DELETE

ACL Feed: [/feeds/default/private/full/resourceID/acl](#)

GET, POST, PUT, DELETE

Feeds



<https://docs.google.com/>

Documents List Feed: [/feeds/default/private/full/\[resourceID\]](#)

GET, POST, PUT, DELETE

ACL Feed: [/feeds/default/private/full/resourceID/acl](#)

GET, POST, PUT, DELETE

Media Feed: [/feeds/default/media/resourceID](#)

PUT

Feeds



<https://docs.google.com/>

Documents List Feed: [/feeds/default/private/full/\[resourceID\]](#)

GET, POST, PUT, DELETE

ACL Feed: [/feeds/default/private/full/resourceID/acl](#)

GET, POST, PUT, DELETE

Media Feed: [/feeds/default/media/resourceID](#)

PUT

Revisions Feed: [/feeds/default/private/full/resourceID/revisions](#)

GET

Feeds



<https://docs.google.com/>

Documents List Feed: [/feeds/default/private/full/\[resourceID\]](#)

GET, POST, PUT, DELETE

ACL Feed: [/feeds/default/private/full/resourceID/acl](#)

GET, POST, PUT, DELETE

Media Feed: [/feeds/default/media/resourceID](#)

PUT

Revisions Feed: [/feeds/default/private/full/resourceID/revisions](#)

GET

Folder Contents: [/feeds/default/private/full/resourceID/contents](#)

GET, POST, DELETE

Feeds



<https://docs.google.com/>

Documents List Feed: [/feeds/default/private/full/\[resourceID\]](#)

GET, POST, PUT, DELETE

ACL Feed: [/feeds/default/private/full/resourceID/acl](#)

GET, POST, PUT, DELETE

Media Feed: [/feeds/default/media/resourceID](#)

PUT

Revisions Feed: [/feeds/default/private/full/resourceID/revisions](#)

GET

Folder Contents: [/feeds/default/private/full/resourceID/contents](#)

GET, POST, DELETE

Export Feed: [/feeds/download/documents/Export?...](#)

GET

Feeds



<https://docs.google.com/>

Documents List Feed: [/feeds/default/private/full/\[resourceID\]](#)

GET, POST, PUT, DELETE

ACL Feed: [/feeds/default/private/full/resourceID/acl](#)

GET, POST, PUT, DELETE

Media Feed: [/feeds/default/media/resourceID](#)

PUT

Revisions Feed: [/feeds/default/private/full/resourceID/revisions](#)

GET

Folder Contents: [/feeds/default/private/full/resourceID/contents](#)

GET, POST, DELETE

Export Feed: [/feeds/download/documents/Export?...](#)

Metadata Feed: [/feeds/metadata/default](#)

GET

Advanced Features

Document Translations

Special Features



- On document upload
- If omitted, **sourceLanguage** will be inferred.

POST /feeds/default/private/full
?sourceLanguage=en&targetLanguage=de

Upload any file

Special Features



- Upload any file type to Google Docs
- Default: doc files are converted to (editable) Google Docs
- Can preserve native format (100% fidelity) with **?convert=false**
- Take up quota. Converted docs do not.
- API access is limited to Google Apps Premier domains.

Max 1GB file upload

1GB total storage (with ability to purchase more)

[O]ptical [C]haracter [R]ecognition

Special Features



- Available on .jpg/.png/.gif uploads
- Limitations:
 - computationally expensive: ~30s to complete
 - requires high resolution images: ~10 pixel character height
 - latin character set
 - higher quota for Google Apps users

[O]ptical [C]haracter [R]ecognition

Special Features



- Available on .jpg/.png/.gif uploads
- Limitations:
 - computationally expensive: ~30s to complete
 - requires high resolution images: ~10 pixel character height
 - latin character set
 - higher quota for Google Apps users

POST /feeds/default/private/full?ocr=true HTTP/1.1

Host: docs.google.com

Authorization: OAuth oauth_consumer_key=example.com...

GData-Version: 3.0

Content-Length: 1984

Content-Type: image/png

Slug: Document Title

... <image contents here> ...

OCR Demo



[Logout from Google Docs](#)

This example application showcases the OCR feature of the [Documents List Data API](#). It allows you to upload an image and start an [OCR](#) operation on it. The extracted text is converted into a new Google Document.

Please choose a JPG, GIF, or PNG to be OCR'ed.

Please note that the operation can currently take up to 40 seconds.

A number of limitations:

- Files must be fairly high-resolution — rule of thumb is 10 pixel character height.
- Maximum file size: 10MB
- The larger the file, the longer it takes to process. ~15s, 2MB; ~40s, 10MB

No file chosen

1 Introduction

1.1 Purpose

The Hypertext Transfer Protocol (HTTP) is an application-level hypermedia information systems. HTTP has been in use by the Internet since 1990. The first version of HTTP, referred to as HTTP/1.0, was used across the Internet. HTTP/1.0, as defined by RFC 1945 [6], is in the format of MIME-like messages, containing meta-information about request/response semantics. However, HTTP/1.0 does not support hierarchical proxies, caching, the need for persistent connections, and incompletely-implemented applications calling themselves "HTTP" in order for two communicating applications to determine each other's capabilities.

Lib: PHP (Zend)

Auth: AuthSub

Feature: OCR

<http://googlecodesamples.com/docs/php/ocr.php>

Metadata Feed

Advanced Features



- Feature discovery

POST /feeds/metadata/default HTTP/1.1

Host: docs.google.com

Authorization: <your authorization header here>

GData-Version: 3.0

```
<entry xmlns="http://www.w3.org/2005/Atom">
  ...
  <gd:quotaBytesTotal>1073741824</gd:quotaBytesTotal>
  <gd:quotaBytesUsed>378374</gd:quotaBytesUsed>
  <docs:quotaBytesUsedInTrash>0</docs:quotaBytesUsedInTrash>
  <docs:feature>
    <docs:featureName>ocr</docs:featureName>
  </docs:feature>
  <docs:feature>
    <docs:featureName>upload_any</docs:featureName>
  </docs:feature>
  <docs:maxUploadSize kind="document">512000</docs:maxUploadSize>
  <docs:maxUploadSize kind="spreadsheet">1048576</docs:maxUploadSize>
  <docs:maxUploadSize kind="pdf">1048576000</docs:maxUploadSize>
  <docs:maxUploadSize kind="file">1048576000</docs:maxUploadSize>
</entry>
```

Metadata Feed

Advanced Features



- Feature discovery

POST /feeds/metadata/default HTTP/1.1

Host: docs.google.com

Authorization: <your authorization header here>

GData-Version: 3.0

```
<entry xmlns="http://www.w3.org/2005/Atom">
  ...
  <gd:quotaBytesTotal>1073741824</gd:quotaBytesTotal>
  <gd:quotaBytesUsed>378374</gd:quotaBytesUsed>
  <docs:quotaBytesUsedInTrash>0</docs:quotaBytesUsedInTrash>
  <docs:feature>
    <docs:featureName>ocr</docs:featureName>
  </docs:feature>
  <docs:feature>
    <docs:featureName>upload_any</docs:featureName>
  </docs:feature>
  <docs:maxUploadSize kind="document">512000</docs:maxUploadSize>
  <docs:maxUploadSize kind="spreadsheet">1048576</docs:maxUploadSize>
  <docs:maxUploadSize kind="pdf">1048576000</docs:maxUploadSize>
  <docs:maxUploadSize kind="file">1048576000</docs:maxUploadSize>
</entry>
```

Resumable Upload

Advanced Features



- Recommended upload path for large arbitrary file uploads.
- Normal upload max is ~250MB. Resumable has no limit.
- Upload process:
 1. Client makes POST request to initiate a resumable upload request.
 2. Upload each file chunk to the unique upload URI
- Client library support

Resumable Upload Protocol



POST /feeds/upload/create-session/default/private/full HTTP/1.1

Host: docs.google.com

Authorization: <your authorization header here>

GData-Version: 3.0

Content-Length: 0

Slug: MyTitle

X-Upload-Content-Type: application/zip

X-Upload-Content-Length: 1234567

< empty body >

Resumable Upload Protocol



POST /feeds/upload/create-session/default/private/full HTTP/1.1

Host: docs.google.com

Authorization: <your authorization header here>

GData-Version: 3.0

Content-Length: 0

Slug: MyTitle

X-Upload-Content-Type: application/zip

X-Upload-Content-Length: 1234567

< empty body >

HTTP 200 OK

Location: < unique upload uri >

Resumable Upload Protocol



POST /feeds/upload/create-session/default/private/full HTTP/1.1

Host: docs.google.com

Authorization: <your authorization header here>

GData-Version: 3.0

Content-Length: 0

Slug: MyTitle

X-Upload-Content-Type: application/zip

X-Upload-Content-Length: 1234567

< empty body >

HTTP 200 OK

Location: < unique upload uri >

PUT <upload_uri> HTTP/1.1

Host: docs.google.com

Content-Type: application/zip

Content-Range: bytes 0-9999/1234567

< bytes 0-9999 >

Resumable Upload Protocol



POST /feeds/upload/create-session/default/private/full HTTP/1.1

Host: docs.google.com

Authorization: <your authorization header here>

GData-Version: 3.0

Content-Length: 0

Slug: MyTitle

X-Upload-Content-Type: application/zip

X-Upload-Content-Length: 1234567

< empty body >

HTTP 200 OK

Location: < unique upload uri >

PUT <upload_uri> HTTP/1.1

Host: docs.google.com

Content-Type: application/zip

Content-Range: bytes 0-9999/1234567

< bytes 0-9999 >

HTTP 308 Resume Incomplete

Content-Length: 0

Range: 0-99999

Resumable Upload

Protocol



HTTP 201 Created

```
<entry xmlns='http://www.w3.org/2005/Atom'  
  gd:etag='W/"CsNSadsfdfGUo."'>  
  <title type='text'>MyTitle</title>  
  <gd:quotaBytesUsed>1234567</gd:quotaBytesUsed>  
  ...  
</entry>
```

Resumable Upload

Python



```
import os.path
import atom.data
import gdata.client
import gdata.docs.client
import gdata.docs.data

client = gdata.docs.client.DocsClient(source='yourCompany-yourAppName-v1')
# TODO: Authenticate with OAuth/AuthSub

f = open('test.mpg')
file_size = os.path.getsize(f.name)

uploader = gdata.client.ResumableUploader(
    client, f, 'video/mpeg', file_size, chunk_size=10485760,
    desired_class=gdata.docs.data.DocsEntry)

# Set metadata for our upload.
entry = gdata.docs.data.DocsEntry(title=atom.data.Title(text='My Video'))

new_entry = uploader.UploadFile(
    '/feeds/upload/create-session/default/private/full', entry=entry)

print 'Document uploaded: ' + new_entry.title.text
print 'Quota used: %s' % new_entry.quota_bytes_used.text
```

Resumable Upload

Python



```
import os.path
import atom.data
import gdata.client
import gdata.docs.client
import gdata.docs.data
```

```
client = gdata.docs.client.DocsClient(
    source='yourCompany-yourAppName-v1')
# TODO(you): Authenticate with OAuth/AuthSub
```

```
new_entry = uploader.UploadFile(
    '/feeds/upload/create-session/default/private/full', entry=entry)
```

```
print 'Document uploaded: ' + new_entry.title.text
print 'Quota used: %s' % new_entry.quota_bytes_used.text
```

Resumable Upload

Python



```
import os.path
import atom.data
import gdata.client
import gdata.docs.client
import gdata.docs.data
```

```
f = open('test.mpg')
```

```
file_size = os.path.getsize(f.name)
```

```
uploader = gdata.client.ResumableUploader(
    client, f, 'video/mpeg',
    file_size, chunk_size=10485760,
    desired_class=gdata.docs.data.DocEntry)
```

```
print 'Document uploaded: ' + new_entry.title.text
print 'Quota used: %s' % new_entry.quota_bytes_used.text
```

Resumable Upload

Python



```
import os.path
import atom.data
import gdata.client
import gdata.docs.client
import gdata.docs.data
```

```
client = gdata.docs.client.DocsClient(source='yourCompany-yourAppName-v1')
# TODO: Authenticate with OAuth/AuthSub
```

Set metadata for our upload.

```
entry = gdata.docs.data.DocsEntry(
    title=atom.data.Title(text='My Video'))
```

```
new_entry = uploader.UploadFile(
    ('/feeds/upload/create-session'
     '/default/private/full'), entry=entry)
```

```
print 'Quota used: %s' % new_entry.quota_bytes_used.text
```

Resumable Upload

Python



```
import os.path
import atom.data
import gdata.client
import gdata.docs.client
import gdata.docs.data

client = gdata.docs.client.DocsClient(source='yourCompany-yourAppName-v1')
# TODO: Authenticate with OAuth/AuthSub

f = open('test.mpg')
file_size = os.path.getsize(f.name)

uploader = gdata.client.ResumableUploader(
    client, f, 'video/mpeg', file_size, chunk_size=10485760,
    desired_class=gdata.docs.data.DocsEntry)

# Set metadata for our upload.

print 'Document uploaded: ' +
    new_entry.title.text
print ('Quota used: %s'
    % new_entry.quota_bytes_used.text)
```

Resumable Upload

Python



```
import os.path
import atom.data
import gdata.client
import gdata.docs.client
import gdata.docs.data

client = gdata.docs.client.DocsClient(source='yourCompany-yourAppName-v1')
# TODO: Authenticate with OAuth/AuthSub

f = open('test.mpg')
file_size = os.path.getsize(f.name)

uploader = gdata.client.ResumableUploader(
    client, f, 'video/mpeg', file_size, chunk_size=10485760,
    desired_class=gdata.docs.data.DocsEntry)

# Set metadata for our upload.
entry = gdata.docs.data.DocsEntry(title=atom.data.Title(text='My Video'))

new_entry = uploader.UploadFile(
    '/feeds/upload/create-session/default/private/full', entry=entry)

print 'Document uploaded: ' + new_entry.title.text
print 'Quota used: %s' % new_entry.quota_bytes_used.text
```

mēmeo[®] Connect[™] for Google Apps

Memeo

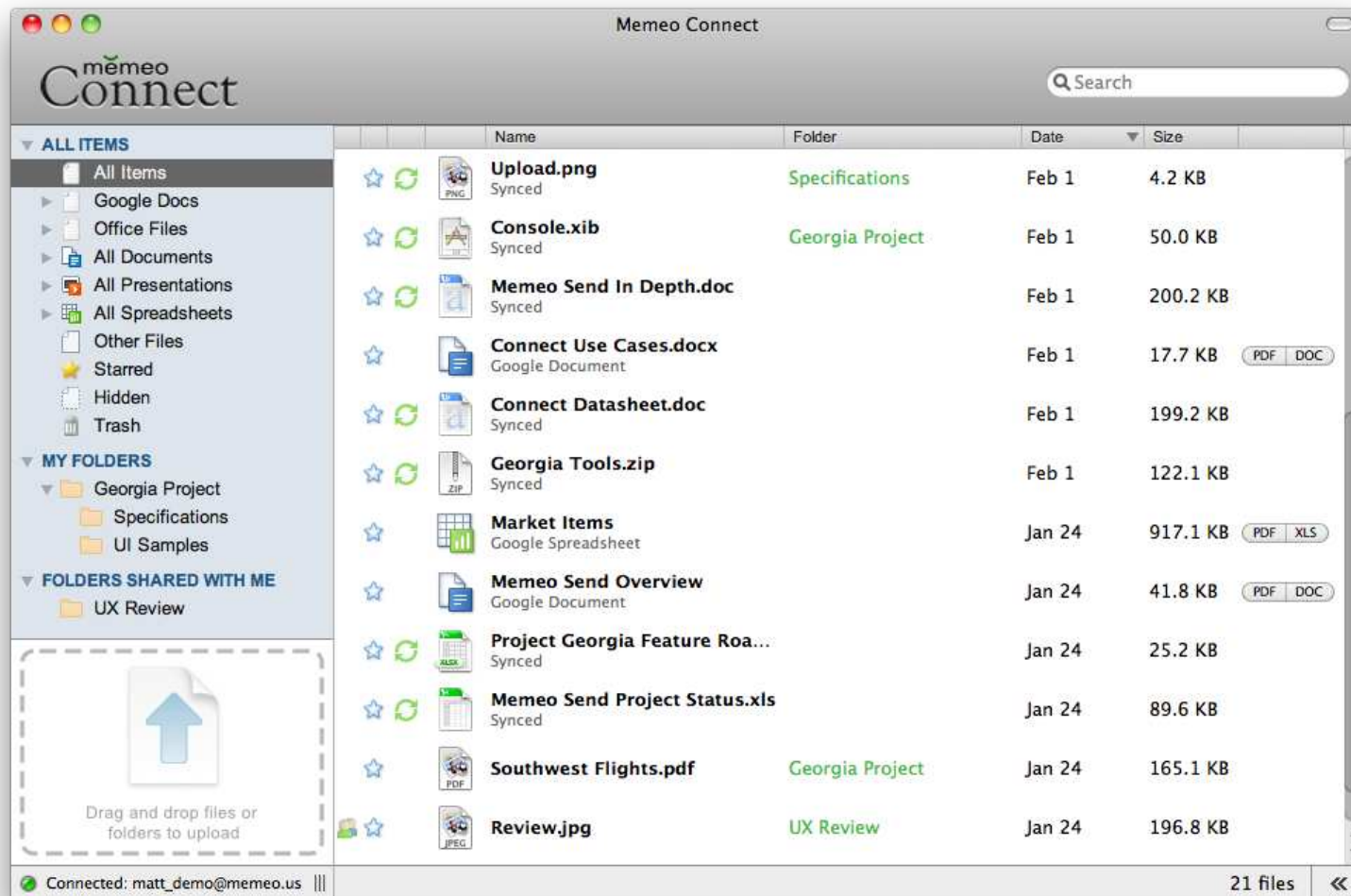
Memeo Connect

What is it?

mēmeo
Connect
for Google Apps



- Bridges your Google Documents with your Desktop



Building Memeo Connect



- The Challenge
 - Sync Sync Sync!
 - It's all about editing documents and getting updates
 - Need to handle collisions gracefully

Building Memeo Connect



- The Challenge
 - Sync Sync Sync!
 - It's all about editing documents and getting updates
 - Need to handle collisions gracefully
- Solution:
 - Etags
 - Document feeds
 - Parameters: `updated-min|max`

Memeo Connect

Tips & Tricks

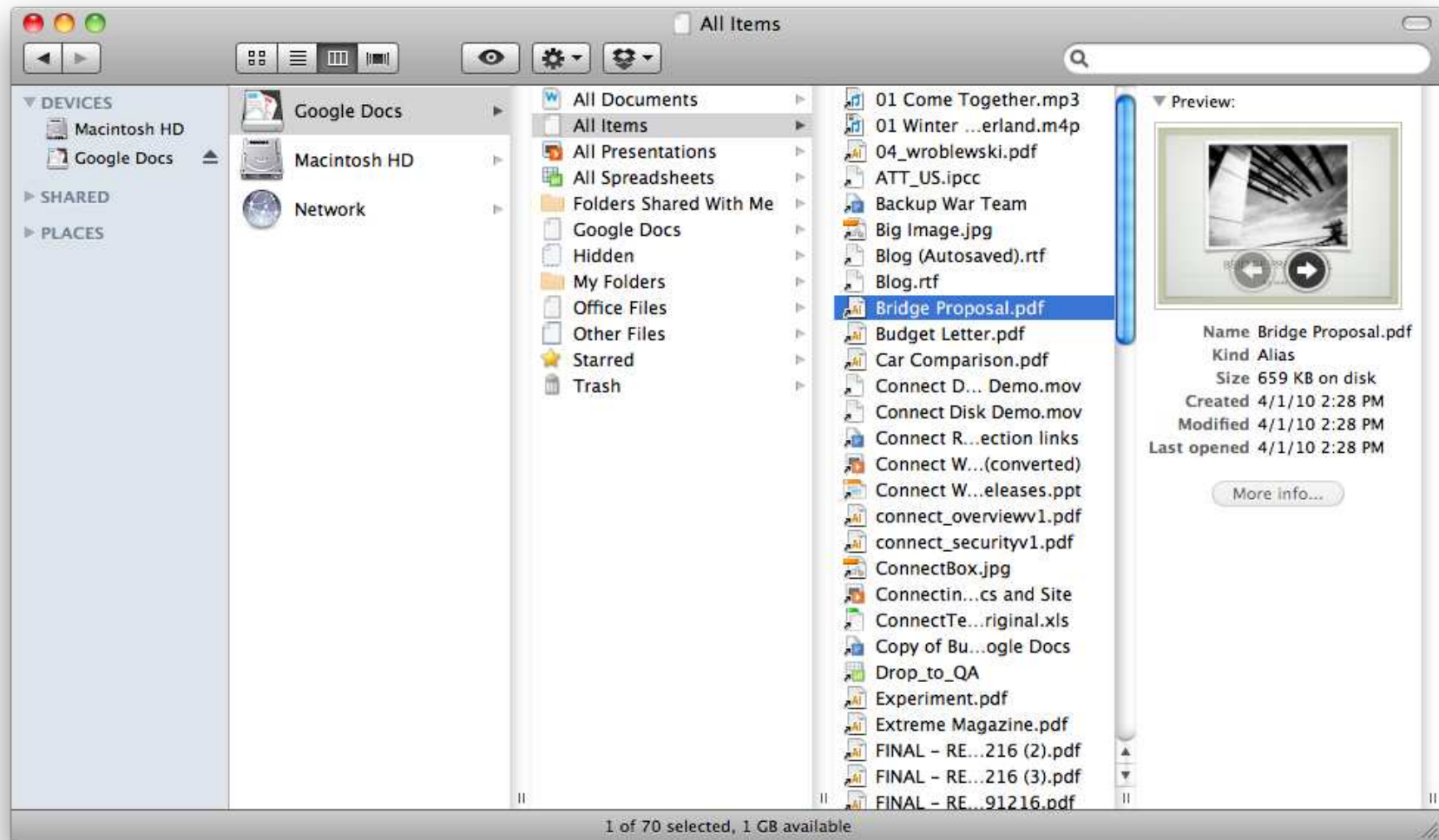


- Google Docs is not a file hierarchy
- List size
 - Documents can be HUGE
 - Optimize feed requests
- Persistence
- Get Lazy
- Flexibility
- Informative UI
- Client Libraries Rock

Memeo Connect 2.0 Beta



- Signup at <http://www.memeoconnect.com/beta>



Demo

Google Docs Base Editor



```
1 \documentclass[12pt]{article}
2 \usepackage[utf8]{inputenc}
3 \usepackage{amsmath}
4 \title{\LaTeX}
5 \date{}
6 \begin{document}
7   \maketitle
8   \LaTeX{} is a document preparation system for the \TeX{}
9   typesetting program. It offers programmable desktop publishing
10  features and extensive facilities for automating most aspects of
11  typesetting and desktop publishing, including numbering and
12  cross-referencing, tables and figures, page layout, bibliographies,
13  and much more. \LaTeX{} was originally written in 1984 by Leslie
14  Lamport and has become the dominant method for using \TeX; few
15  people write in plain \TeX{} anymore. The current version is
16  \LaTeXe.
17
18  % This is a comment; it is not shown in the final output.
19  % The following shows a little of the typesetting power of LaTeX
20  \begin{align}
21    E &= mc^2 \\
22    m &= \frac{m_0}{\sqrt{1-\frac{v^2}{c^2}}}
23  \end{align}
24 \end{document}
```

Java library

Google Web Toolkit

App Engine

docs.latexlab.org



Sites Data API

(aka Sites API)



**View live notes and ask questions about
this session on Google Wave**

<http://bit.ly/bp2sTC>

Features



- Create/modify, move, delete *all* site content
- Create new sites or copy existing ones
- Sharing permissions (ACLs)
- Revision History / Activity feed
- Attachments
- Page-level templates, Site-level templates
- Web address mappings (`mysite.example.com` -> `https://sites.google.com/a/example.com/mysite`)
- Gadgets
- Google Apps Scripts (<http://bit.ly/sites-apps-script>)

Feeds



<https://sites.google.com/feeds/>

Feeds



<https://sites.google.com>

Site Feed:

/feeds/site/{domain}

GET, POST, PUT

Feeds



<https://sites.google.com>

Site Feed: ***/feeds/site/{domain}***

GET, POST, PUT

Content Feed: ***/feeds/content/{domain}/{siteName}***

GET, POST, PUT, DELETE

Feeds



<https://sites.google.com>

Site Feed: *[/feeds/site/{domain}](#)*

GET, POST, PUT

Content Feed: *[/feeds/content/{domain}/{siteName}](#)*

GET, POST, PUT, DELETE

ACL Feed: *[/feeds/acl/site/{domain}/{siteName}](#)*

GET, POST, PUT, DELETE

Feeds



<https://sites.google.com>

Site Feed: *[/feeds/site/{domain}](#)*

GET, POST, PUT

Content Feed: *[/feeds/content/{domain}/{siteName}](#)*

GET, POST, PUT, DELETE

ACL Feed: *[/feeds/acl/site/{domain}/{siteName}](#)*

GET, POST, PUT, DELETE

Activity Feed: *[/feeds/activity/{domain}/{siteName}](#)*

GET

Feeds



<https://sites.google.com>

Site Feed: *[/feeds/site/{domain}](#)*

GET, POST, PUT

Content Feed: *[/feeds/content/{domain}/{siteName}](#)*

GET, POST, PUT, DELETE

ACL Feed: *[/feeds/acl/site/{domain}/{siteName}](#)*

GET, POST, PUT, DELETE

Activity Feed: *[/feeds/activity/{domain}/{siteName}](#)*

GET

Revision Feed: *[/feeds/revision/{domain}/{siteName}/contentId](#)*

GET

What kind of content?



<https://sites.google.com/site/gdatatestsite/>

gdatatestsite

Home

Action Items

Announcements

files

Gadgets

Sitemap

Recent site activity

Home

attachment from Eric Bidelman

comment from Eric Bidelman

Party

created by Eric Bidelman

Announcements

created by Eric Bidelman

webpagetitle

removed by GData Ops Demo

New Webpage Title

removed by GData Ops Demo

View All

Home



Praesent et libeLorem ipsum dolor sit amet, consectetur adipiscing elit. Phasellus sed ullamcorper urna. Ut feugiat, metus at aliquam porta, neque lacus rutrum risus, in interdum nunc ante vel ante. Suspendisse in sem tortor, sed eleifend magna. Quisque dictum ultrices turpis, a vehicula nulla placerat id. Sed viverra lobortis nibh sed tempus. Nulla facilisi. Etiam in leo sem, non porttitor urna. In tellus nunc, pulvinar ac feugiat fermentum, feugiat a mi. Fusce dignissim, nulla vitae tempus egestas, tortor ligula venenatis nulla, nec sodales orci velit vel felis. Aenean ornare dignissim nunc, at viverra turpis dapibus non. Nam egestas eleifend mauris non tincidunt. Pellentesque eget neque nec metus molestie condimentum id quis urna. Pellentesque sed justo dolor. Phasellus blandit dapibus purus sit amet cursus. Nulla aliquam semper elit et vestibulum. Vestibulum imperdiet imperdiet ullamcorper. ro nec ante bibendum interdum vitae a tortor. Morbi non euismod nibh. Aliquam congue, ante at pharetra dapibus, ligula leo sollicitudin tortor, ut egestas eros libero lobortis lectus. Vivamus ligula quam, lobortis ut bibendum sed, porttitor non augue. Aliquam vel est eget nunc egestas tempor. Pellentesque nec mi purus, a hendrerit sapien. Integer in odio elit. In eu consectetur augue. Cras nec ante justo, ut tristique lacus. Vivamus porta fermentum sapien et dapibus. Cras neque odio, varius sed sodales non, sodales eget nisi.

Morbi a tellus in mi pretium tempus. Nunc metus leo, malesuada pharetra eleifend non, congue in eros. Aliquam lacinia tempor est, nec volutpat mi pretium ac. Pellentesque quis sapien nisi. Phasellus suscipit auctor velit sed interdum. Integer arcu ipsum, ornare non imperdiet non, varius at nisi. Maecenas semper enim ut sapien interdum sit amet scelerisque est tristique. Praesent arcu eros, posuere quis consequat at, convallis non sem. Quisque sit amet nulla magna. Nullam purus tortor, accumsan quis vulputate eu, hendrerit sed felis. In at sem et neque pulvinar suscipit at hendrerit metus. Mauris mollis molestie tellus ac viverra. Nam vel ligula odio. Vivamus sem sapien, molestie non vestibulum in, rhoncus viverra dui. Nullam quis elit lectus. Donec augue nulla, pulvinar eu aliquam ut, porttitor eget nunc.

Subpages (1): [Action Items](#)

Attachments (1)

 [test.xls](#) 14k - on Oct 6, 2009 2:34 PM by Eric Bidelman (version 1)

Comments (1)

Eric Bidelman - Oct 6, 2009 2:33 PM

This page is boring.

[Sign in](#) [Terms](#) [Report Abuse](#) [Print page](#) | Powered by [Google Sites](#)

What kind of content?



<https://sites.google.com/site/gdatatestsite/>

gdatatestsite

[Home](#)
[Action Items](#)
[Announcements](#)
[files](#)
[Gadgets](#)
[Sitemap](#)

Recent site activity
[Home](#)
attachment from Eric Bidelman
comment from Eric Bidelman
[Party](#)
created by Eric Bidelman
[Announcements](#)
created by Eric Bidelman
[webpagetitle](#)
removed by GData Ops Demo
[New Webpage Title](#)
removed by GData Ops Demo
[View All](#)

Home



Praesent et libeLorem ipsum dolor sit amet, consectetur adipiscing elit. Phasellus sed ullamcorper urna. Ut feugiat, metus at aliquam porta, neque lacus rutrum risus, in interdum nunc ante vel ante. Suspendisse in sem tortor, sed eleifend magna. Quisque dictum ultrices turpis, a vehicula nulla placerat id. Sed viverra lobortis nibh sed tempus. Nulla facilisi. Etiam in leo sem, non porttitor urna. In tellus nunc, pulvinar ac feugiat fermentum, feugiat a mi. Fusce dignissim, nulla vitae tempor egestas, tortor ligula venenatis nulla, nec sodales orci velit vel felis. Aenean ornare dignissim nunc, at viverra turpis dapibus non. Nam egestas eleifend mauris non tincidunt. Pellentesque eget neque nec metus molestie condimentum id quis urna. Pellentesque sed justo dolor. Phasellus blandit dapibus purus sit amet cursus. Nulla aliquam semper elit et vestibulum. Vestibulum imperdiet imperdiet ullamcorper. ro nec ante bibendum interdum vitae a tortor. Morbi non euismod nibh. Aliquam congue, ante at pharetra dapibus, ligula leo sollicitudin tortor, ut egestas eros libero lobortis lectus. Vivamus ligula quam, lobortis ut bibendum sed, porttitor non augue. Aliquam vel est eget nunc egestas tempor. Pellentesque nec mi purus, a hendrerit sapien. Integer in odio elit. In eu consectetur augue. Cras nec ante justo, ut tristique lacus. Vivamus porta fermentum sapien et dapibus. Cras neque odio, varius sed sodales non, sodales eget nisi.

Morbi a tellus in mi pretium tempus. Nunc metus leo, malesuada pharetra eleifend non, congue in eros. Aliquam lacinia tempor est, nec volutpat mi pretium ac. Pellentesque quis sapien nisi. Phasellus suscipit auctor velit sed interdum. Integer arcu ipsum, ornare non imperdiet non, varius at nisi. Maecenas semper enim ut sapien interdum sit amet scelerisque est tristique. Praesent arcu eros, posuere quis consequat at, convallis non sem. Quisque sit amet nulla magna. Nullam purus tortor, accumsan quis vulputate eu, hendrerit sed felis. In at sem et neque pulvinar suscipit at hendrerit metus. Mauris mollis molestie tellus ac viverra. Nam vel ligula odio. Vivamus sem sapien, molestie non vestibulum in, rhoncus viverra dui. Nullam quis elit lectus. Donec augue nulla, pulvinar eu aliquam ut, porttitor eget nunc.

Subpages (1): [Action Items](#)

Attachments (1)
 [test.xls](#) 14k - on Oct 6, 2009 2:34 PM by Eric Bidelman (version 1)

Comments (1)
Eric Bidelman - Oct 6, 2009 2:33 PM
This page is boring.

[Sign in](#) [Terms](#) [Report Abuse](#) [Print page](#) | Powered by [Google Sites](#)



Activity

What kind of content?



<https://sites.google.com/site/gdatatestsite/>

gdatatestsite

Search this site

Home

- Action Items
- Announcements
- files
- Gadgets
- Sitemap

Recent site activity

[Home](#)
attachment from Eric Bidelman
comment from Eric Bidelman

[Party](#)
created by Eric Bidelman

[Announcements](#)
created by Eric Bidelman

[webpagetitle](#)
removed by GData Ops Demo

[New Webpage Title](#)
removed by GData Ops Demo

[View All](#)

Home



Praesent et libeLorem ipsum dolor sit amet, consectetur Quisque dictum ultrices turpis, a vehicula nulla place egestas, tortor ligula venenatis nulla, nec sodales orc Pellentesque sed justo dolor. Phasellus blandit dapit congue, ante at pharetra dapibus, ligula leo sollicitud hendrerit sapien. Integer in odio elit. In eu consectetur

Morbi a tellus in mi pretium tempus. Nunc metus leo arcu ipsum, ornare non imperdiet non, varius at nisi. Maecenas semper quis vulputate eu, hendrerit sed felis. In at sem et neque pulvinar susci nulla, pulvinar eu aliquam ut, porttitor eget nunc.

Subpages (1): [Action Items](#)

Attachments (1)

[test.xls](#) 14k - on Oct 6, 2009 2:34 PM by Eric Bidelman (version 1)

Comments (1)

Eric Bidelman - Oct 6, 2009 2:33 PM
This page is boring.

[Home](#) >

Action Items

Showing 2 items

Owner	Description	Resolution	Complete
Sort ▼	Sort ▼	Sort ▼	Sort ▼
Eric	Clean up documentation		
Eric	Create this Site	pending	✓

Showing 2 items

What kind of content?



<https://sites.google.com/site/gdatatestsite/>

gdatatestsite

Search this site

Home

Action Items

Announcements

files

Gadgets

Sitemap

Recent site activity

Home

attachment from Eric Bidelman

comment from Eric Bidelman

Party

created

Annour

created

webpai

removed

Demo

New W

removed

Demo

View All

Home



Praesent et libeLorem ipsum dolor sit amet, consectetur Quisque dictum ultrices turpis, a vehicula nulla place egestas, tortor ligula venenatis nulla, nec sodales orc Pellentesque sed justo dolor. Phasellus blandit dapit congue, ante at pharetra dapibus, ligula leo sollicitud hendrerit sapien. Integer in odio elit. In eu consectetur

Morbi a tellus in mi pretium tempus. Nunc metus lec arcu ipsum, ornare non imperdiet non, varius at nisi. Maecenas sempe quis vulputate eu, hendrerit sed felis. In at sem et neque pulvinar susci nulla pulvinar eu aliquam ut nortitnr eget nunc

Home >

Action Items

Showing 2 items

Owner	Description	Resolution	Complete
Sort ▼	Sort ▼	Sort ▼	Sort ▼
Eric	Clean up documentation		
Eric	Create this Site	pending	✓

Showing 2 items

Announcements

Party

posted 12 minutes ago by Eric Bidelman

My fantastic party!

◀ Prev

1-1 of 1

Next ▶

What kind of content?



<https://sites.google.com/site/gdatatestsite/>

gdatatestsite

Search this site

Home

Action Items

Announcements

files

Gadgets

Sitemap

Recent site activity

Home
attachment from Eric Bidelman
comment

Party
created

Annour
created

webpai
removed
Demo

New W
removed
Demo

View All

Home

Home >

Action Items

Showing 2 items

Owner	Description	Resolution	Complete
Sort ▼	Sort ▼	Sort ▼	Sort ▼

Announcements

files

Party
posted 12 minutes

My fantastic part

◀ Prev 1-1 of 1

[Google logo](#)

an hour ago

Eric Bidelman

[hello.is](#)

1k

[v. 1](#)

Sep 8, 2009 5:14 PM

Eric Bidelman

[test.pdf](#)

106k

[v. 1](#)

an hour ago

Eric Bidelman

Creating Content



```
SiteService client = new SiteService("yourCo-yourAppName-v1");  
// TODO: Use OAuth/AuthSub to gain authorization to user's data
```

Creating Content



```
SiteService client = new SiteService("yourCo-yourAppName-v1");  
// TODO: Use OAuth/AuthSub to gain authorization to user's data
```

```
public WebPageEntry createWebPage(String title, String html) {
```

```
}
```

```
WebPageEntry page = createWebPage(  
    "Title", "<b>Why doesn't the <blink> tag would work in Sites?</b>");
```

Creating Content



```
SiteService client = new SiteService("yourCo-yourAppName-v1");  
// TODO: Use OAuth/AuthSub to gain authorization to user's data
```

```
public WebPageEntry createWebPage(String title, String html) {  
    WebPageEntry entry = new WebPageEntry();
```

```
    // Set page content and title.
```

```
    XmlBlob xml = new XmlBlob();
```

```
    xml.setBlob(html);
```

```
    entry.setContent(new XhtmlTextConstruct(xml));
```

```
    entry.setTitle(new PlainTextConstruct(title));
```

```
}
```

```
WebPageEntry page = createWebPage(  
    "Title", "<b>Why doesn't the &lt;blink> tag would work in Sites?</b>");
```


Creating Content



```
SiteService client = new SiteService("yourCo-yourAppName-v1");  
// TODO: Use OAuth/AuthSub to gain authorization to user's data
```

```
public WebPageEntry createWebPage(String title, String html) {  
    WebPageEntry entry = new WebPageEntry();
```

```
    // Set page content and title.
```

```
    XmlBlob xml = new XmlBlob();
```

```
    xml.setBlob(html);
```

```
    entry.setContent(new XhtmlTextConstruct(xml));
```

```
    entry.setTitle(new PlainTextConstruct(title));
```

```
}
```

```
WebPageEntry page = createWebPage(  
    "Title", "<b>Why doesn't the &lt;blink> tag would work in Sites?</b>");
```

Creating Content



```
SiteService client = new SiteService("yourCo-yourAppName-v1");  
// TODO: Use OAuth/AuthSub to gain authorization to user's data
```

```
public WebPageEntry createWebPage(String title, String html) {  
    WebPageEntry entry = new WebPageEntry();
```

```
    // Set page content and title.
```

```
    XmlBlob xml = new XmlBlob();
```

```
    xml.setBlob(html);
```

```
    entry.setContent(new XhtmlTextConstruct(xml));
```

```
    entry.setTitle(new PlainTextConstruct(title));
```

```
    URL contentFeedUrl = new URL(  
        "https://sites.google.com/feeds/content/site/gdatatestsite");
```

```
    return client.insert(contentFeedUrl, entry);  
}
```

```
WebPageEntry page = createWebPage(  
    "Title", "<b>Why doesn't the &lt;blink> tag would work in Sites?</b>");
```

Fetching Content



<https://sites.google.com/site/gdatatestsite/>

GET /feeds/content/site/gdatatestsite?kind=webpage

GET /feeds/content/site/gdatatestsite?kind=webpage,listpage

http://sites.google.com/site/gdatatestsite/Home/todos:

GET /feeds/content/site/gdatatestsite?path=/Home/todos

GET /feeds/content/site/gdatatestsite?parent=301348189113428

GET /feeds/content/site/gdatatestsite
?include-drafts=true&include-deleted=true

Fetching Content



```
URL contentFeedUri = new URL(  
    "https://sites.google.com/feeds/content/site/gdatatestsite" +  
    "?kind=filecabinet,listpage");
```

Fetching Content



```
URL contentFeedUri = new URL(  
    "https://sites.google.com/feeds/content/site/gdatatestsite" +  
    "?kind=filecabinet,listpage");  
  
ContentFeed feed = client.getFeed(contentFeedUri, ContentFeed.class);
```

Fetching Content



```
URL contentFeedUri = new URL(  
    "https://sites.google.com/feeds/content/site/gdatatestsite" +  
    "?kind=filecabinet,listpage");  
  
ContentFeed feed = client.getFeed(contentFeedUri, ContentFeed.class);  
  
System.out.println("Listing all file cabinets on site:");  
for (FileCabinetPageEntry entry :  
    feed.getEntries(FileCabinetPageEntry.class)) {  
    System.out.println("Title: " + entry.getTitle().getPlainText());  
    System.out.println("Revision#: " + entry.getRevision().getValue());  
}
```

Fetching Content



```
URL contentFeedUri = new URL(
    "https://sites.google.com/feeds/content/site/gdatatestsite" +
    "?kind=filecabinet,listpage");

ContentFeed feed = client.getFeed(contentFeedUri, ContentFeed.class);

System.out.println("Listing all file cabinets on site:");
for (FileCabinetPageEntry entry :
    feed.getEntries(FileCabinetPageEntry.class)) {
    System.out.println("Title: " + entry.getTitle().getPlainText());
    System.out.println("Revision#: " + entry.getRevision().getValue());
}

System.out.println("Listing all list pages on site:");
for (ListPageEntry entry : feed.getEntries(ListPageEntry.class)) {
    System.out.println("Title: " + entry.getTitle().getPlainText());
    System.out.println("id: " + getEntryId(entry));
    for (Column col : entry.getData().getColumns()) {
        System.out.println(
            "[" + col.getIndex() + "]" + col.getName() + "\t");
    }
}
```

Demo

Demo

End to End: creating a site from scratch



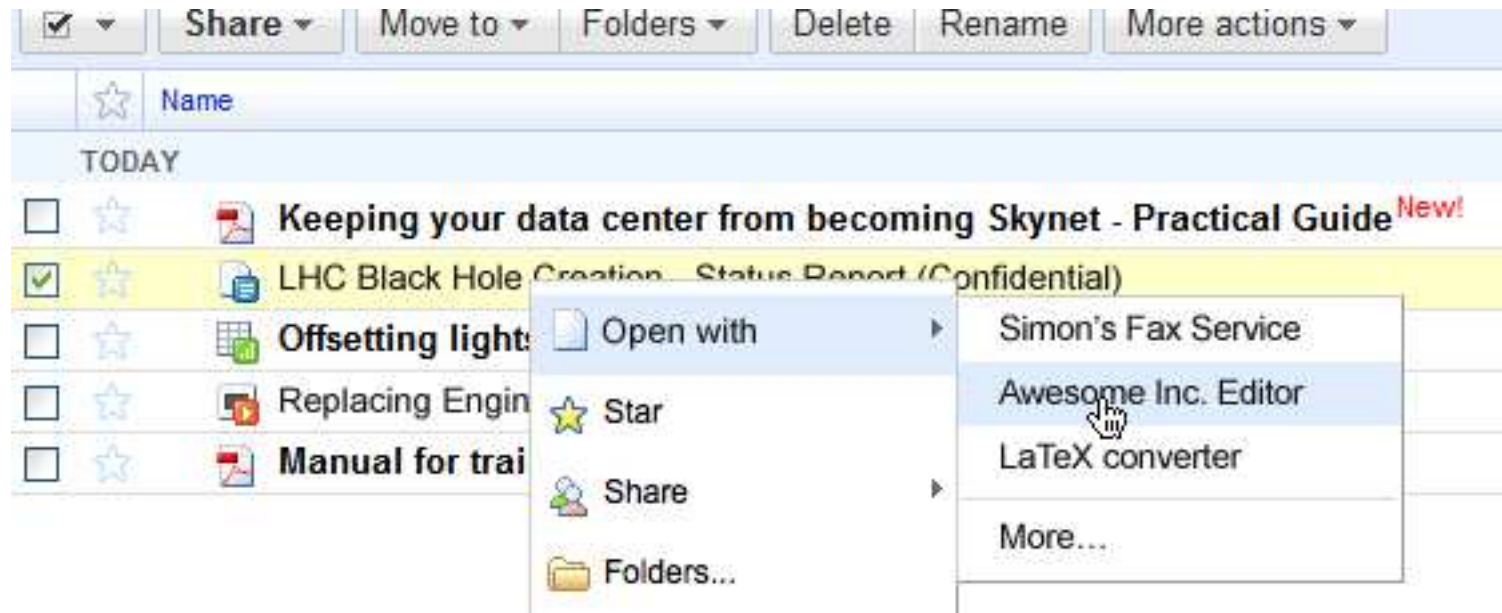
So what can YOU build with them...?

Google Apps Marketplace



Google Apps Marketplace

Context Menu Integration



Google Docs - Moving Forward



- "Why would your Docs ever leave the cloud?"
 - Create, store, share in the cloud
 - Access from anywhere and any device
- Anyone can play in the cloud
 - New Web and Client Apps
 - Even legacy apps and legacy operating and file systems
- Sharing
 - Collaboration is king
- Google Docs
 - Getting better and better

Google Sites Moving Forward



- Workspaces
 - Publishing workflow
 - Deeper integration with Docs
- Themes
 - CSS based themes
 - Improved theme re-use
- Extensibility
 - Continued evolution of the Gadget API
 - Access to advanced site configuration via API
 - Event driven code execution
 - Dynamic page rendering
 - Support for client side JavaScript



**View live notes and ask questions about
this session on Google Wave**

<http://bit.ly/bp2sTC>

Resources



DocList API

- documentation: <http://code.google.com/apis/documents/> - libraries & code samples: <http://code.google.com/apis/documents/code.html>

Sites API

- documentation: <http://code.google.com/apis/sites/> - libraries & code samples: <http://code.google.com/apis/sites/code.html>

Live demos: googlecodesamples.com

Google™

