1) Google May Be Trying To Take Over The World (and why that may not be a bad thing)

It's probably a bad strategy to declare your **unsuitability to speak** on a certain subject just before beginning to speak on that subject. But I should say that I'm not particularly qualified to give you a Google overview; I'm by no means an expert, more of a casual user.

This presentation was initially conceived as an **outline of some of the Google projects which could be construed as useful to libraries and librarian**s – that is, projects which might have application or interest to librarians, and are free.

I intend to tell you about a few of those today, a little later in the presentation, but first I want to contextualize them -- **take a stab at figuring out what Google is ultimately aiming for** and what that means to libraries and librarians.

2) What is Google? (Search.)

You know what Google is. Google is the de facto go-to search interface for the web.

Google's mission: **to organize the world's information** and make it universally accessible and useful.

2009 saw significant improvements to Google's search algorithm, along with the introduction of real-time search.

Keyword is king. Whoever controls the keyword, controls the Internet. The corporate end of the library world has completely bought into this -- we see it in the types of discovery products coming out every quarter from III, SirsiDynix, SerialsSolutions, Ebsco. (At the risk of overusing sci-fi metaphors,) One search box to rule them all…

> "The search engine currently uses more than 200 signals to help rank its results." Signals: attribute of a Web page, like importance relative to the rest of the Web, the words that make up the actual hyperlink connecting one page to another, freshness, location, your own search history, the data you generate when you search.
>
> *March 2010, Wired, "How Google's Algorithm Rules the Web," Steven Levy,*
> *http://www.wired.com/magazine/2010/02/ff_google_algorithm/all/1*

3) What is Google? (Advertising.)

Advertising. It's the business model. AdWords and AdSense are their chief products.

> **AdWords** is their advertising feed, and their main source of revenue. It's the ads that show up wherever Google Ads are shown.
>
> **AdSense** is Google's affiliate program, which allows websites to embed ad boxes on their pages and possibly make money if users click through.

Google's number one revenue stream: Advertising. **$22.9 Billion in advertising revenue in 2009**. That's 96.7% of their total revenue. (http://investor.google.com/fin_data.html)

The potential to match advertising to context is the Holy Grail of marketing, and Google has the best people writing the best algorithms, married to the biggest monopoly in online advertising.

4) Which is it?

Both. It has to do the second to do the first. A few quotes:

In an article just yesterday about Google and Microsoft's incursion into gathering energy data from home consumers:

> "The remarkable thing about these software mega-brands is that they employ bright, forward-looking technologists and have unprecedented access to capital and development resource **— they leave no stone unturned in their quests to expand into relevant future markets**. If we, as consumers, are naive enough to think that they are not commercially focused, particularly when witnessing their cut-throat competition with one another, we are certainly not 'plugged in' to the competitive landscape."
>
> *Mar 25, 2010, "The Green Battle: Microsoft and Google Fight for Our Energy Data," Alix Vance on The Scholarly Kitchen (Society for Scholarly Publishing's Blog) http://scholarlykitchen.sspnet.org/2010/03/25/the-green-battle-microsoft-and-google-fight-for-our-energy-data/*

From Nicholas Carr, author of the much-quoted "Is Google Making Us Stupid" article in Atlantic Monthly, 2008:

> "Google's overriding interest is to (a) maximize the amount and velocity of the traffic flowing through the web and (b) ensure that as large a percentage of that traffic as possible goes through its search engine and is exposed to its ads. One of the most important ways it accomplishes that goal is to promote the distribution of as much free content as possible through as many sites as possible on the web."
>
> *Apr 10, 2009, "Google in the middle," Nicholas Carr on Rough Type (http://www.roughtype.com/archives/2009/04/google_in_the_m.php)*

From earlier this month:

> "… Google's business model and practices broadcast that open content is more linkable and valuable. This benefits Google since the more open the Web becomes, the bigger Google can become. Open content leads to more sharing, more automated linking, more traversals to drive the awareness that results in linking, which all lead to more money for Google… And it's not just textual content that Google inherently wants to make free — given the chance to make maps, Google made them free; given the chance to put maps on the iPhone, Google made them free; and given the chance to turn its maps into a GPS program for the Android, Google made it free."
>
> *Mar 4, 2010, "Orbiting the Google — A Gravitational Pull Affecting Our Lives and Thinking," Kent Anderson on The Scholarly Kitchen (Society for Scholarly Publishing's Blog) http://scholarlykitchen.sspnet.org/2010/03/04/orbiting-the-google-a-gravitational-pull-that-affects-our-lives-and-thinking/*

8) Reconciling the two

Growth has slowed year to year:

56% in 2007 29% in 2008 08% in 2009

Google sees its mission broadly: "**We build web applications**, or "apps", to make it simpler for people to share information and get things done together." (http://www.google.com/corporate/)

So what does Google need to do? Google needs more content to index. It can't grow without expanding the kinds of content that drive traffic through its search – and advertising – infrastructure. The more Google can index, the more it can advertise. Webpages are not enough. So Google has to branch out.

9) Google is branching out. (Search.)

Google - The Web - google.com
realtime search (integrates twitter, etc.)
social search (hooks into google profiles)
images, news, etc.
Google desktop - Your Computer - desktop.google.com
Google Quick Search Box - All of the above - code.google.com/p/qsb-mac/
Google Maps - Geography - maps.google.com
Google Books - Books - books.google.com
Google Scholar - Articles - scholar.google.com
Google Profiles - People – profiles.google.com

10) Google is branching out. (Applications.)

Google Calendar - Calendar - calendar.google.com
Gmail - Email - mail.google.com
Google Docs - Text/Spreadsheet/Presentation - docs.google.com
Chrome - Browser - chrome.google.com, Chromium
Google Reader - Newsreader – reader.google.com
Android - Mobile OS - android.com
Google Voice - Voicemail – www.google.com/voice

Groups, YouTube, Translate, Blogger, Picasa, Google Health, Google Checkout, Google Sites, Orkut, all these offerings that blur the line between search and software.

Note that these are web applications, and as such the application itself and all of its data lives in the cloud. That is, it's distributed among Google's servers, which makes it accessible anywhere. But it also means that you have to **go to a Google node** to get it. **Google Voice** is particularly interesting, because it provides transcripts of your voicemails, which are just searchable digitized versions of pieces of data that are of interest to you, with implications for both "organizing the world's information" and advertising.

Google Android is another interesting case, for a couple of reasons:

1) It indicates that Google is aware that the online world is moving to mobile, and that Google is staking a claim to those devices, too. If you're online, Google wants to be available. Motorola releases the Droid in November, Google releases the HTC Nexus One in January. Google has signed revenue-sharing agreements with carriers that use Android, sweetening the deal for their entry into the market. (*http://moconews.net/article/419-androids-secret-sauce-googles-little-known-advertising-rev-share-deals-/*)

2) Google purchased AdMob last November, and clearly they're replicating their desktop strategy with mobile: Provide good, free products, and sell ads that leverage those products. The FTC just this month has hinted that they may block the acquisition.

11) Google is branching out. (Non-Traditional Applications)

Chrome OS - Operating System - http://www.chromium.org/chromium-os
http://gizmodo.com/5408504/everything-you-need-to-know-about-chrome-os

Chrome Frame – Browser Plugin - code.google.com/chrome/chromeframe

Google Wave – Second Gen Email - wave.google.com

12) So, Let's Take A Look At Some Of This Stuff…

13) Google Chrome Screenshot

14) Google Chrome

http://www.google.com/chrome

A Web Browser, and the base for the Chrome OS

Google claims it's "fast to launch, fast to load web pages" and very simple. Are they right?

CNET says yes: Chrome beats IE/Firefox/Safari on 5 different Javascript benchmark tests. (*http://news.cnet.com/8301-1001_3-10030888-92.html*)

Chrome runs a multiprocess architecture, which means that every tab, and most processes in those tabs, are run in their own environment -- everyone's playing in his own sandbox -- and so one slow page won't take down any other page, or one slow element in a page -- say, a Java applet -- won't slow down the rest of the page.

The point of chrome is to make Javascript run faster and more consistently, so Google has put a lot of work into speed. Even the application itself starts quickly when you open it -- a couple of seconds.

Based on Webkit rendering engine (open source, same as Safari)

15) Google Chrome: Simple?

There's not a lot of UI cruft. Tabs simplify browsing.

The address bar is now omni-functional.

Type a URL
Enter a search term
Google will autosuggest, and determine which is which.

"Most visited" pages accumulate on the homepage, a la Opera. Google learns over time what you visit.

Tabbed browsing is drag-and-drop functional. So you can drag tabs around to reorder them, drag them out of the window to make a new window, and drag tabs from one window to another.

Secure: only browser left standing at today's Pwn2Own. Even iPhone was hackable.

16) Google Chrome: Javascript

Google has written an entirely new Javascript Virtual Machine, called V8, the code that runs Javascript in the browser.

Generates code dynamically. Instead of reading and then interpreting, V8 compiles Javascript into machine code to run faster.

Engineered to clean up memory better, making for faster, smoother transitions. (Precise vs. conservative garbage collection)

17) Google Chrome OS

Currently in development, projected to launch late this year.

A lightweight Linux distribution based on Debian

The browser is the operating system – applications load in tabs. Boots instantly, instantly online.

No hard drive. Applications and data live in the cloud.

Will come preinstalled on a Chrome netbook. Cannot be downloaded.

Especially in the wake of the iPad announcement, Google's development becomes more understandable. If the tablet is the future of functional

computing, having an operating system on a tablet is potentially a good game to be in.

18) Google Chrome: Privacy?

Google's data-collection practices are notorious. There is no indication that Chrome will be any different.

Google has always been gathering data on web-browsing behavior by proxy – through it's search interface. Now it will have an opportunity to gather "primary sources" as it were. Since this is completely in line with its mission -- both explicit and implicit -- we should expect that it will do so.

Privacy is the deal-killer, but privacy may be a moot point, if adoption outstrips our concerns.

19) Google Chrome: Why?

Why would Google get into the browser market? – traditionally, it's services are browser agnostic.

> It serves as the base for the upcoming OS.
>
> Google services run better in it.
>
> Google plans on providing more services. Without a native Google browser, it is not maximizing its potential for those services.

Google Wave and Google OS will surely use Javascript very heavily, and in new ways. If Google is limited to other companies Javascript and rendering engines, it remains at a disadvantage. Ultimately, Google intends to control its environment.

Which leads us to:

20) Google Chrome Frame

http://code.google.com/chrome/chromeframe/

A plug-in for IE that overlays IE's native Javascript / HTML rendering engine with Google's

Provides access to HTML5 elements, like <video> and <canvas>, that IE doesn't yet support. **IE9** will begin supporting HTML5 and some CSS3, but IE use tends to lag a few versions behind.

Provides Google with the opportunity to run its optimized Javascript engine in the World's Most Popular Browser™, paving the way for heavily-Javascript-dependant Google apps.

21) Google Chrome Frame

From the FAQ: "Google Chrome Frame is an Active Document Server that hosts web pages rendered using Google Chrome's rendering engine"

"Google Chrome Frame is designed to work only inside Internet Explorer and not with other browsers"
(*http://code.google.com/chrome/chromeframe/faq.html*)

Triggered by the webpage:
<meta http-equiv="X-UA-Compatible" content="chrome=1">, or in the header

> "Active document servers such as Word, Excel, or PowerPoint host documents of other application types called active documents. Unlike OLE embedded objects (which are simply displayed within the page of another document), Active documents provide the full interface and complete native functionality of the server application that creates them. Users can create documents using the full power of their favorite applications (if they are active document enabled), yet can treat the resulting project as a single entity."
>
> *http://msdn.microsoft.com/en-us/library/8ha0eexy%28VS.71%29.aspx*

22) Google Chrome Frame: Why?

It's a workaround to IE's notoriously lax standards support. Web designers/developers grumble about IE. Chrome Frame allows Google to design however it wants and just "trump" IE's native rendering capabilities.

It's a trojan horse to prepare the way for:

23) Google Wave Screenshot

24) Google Wave

http://www.youtube.com/watch?v=0u84XD_rdwI

Google Wave is a “hosted conversation with only one copy that anyone can contribute to”

Currently in Beta, must be invited (much like Gmail a few years ago).

Google is pinning high hopes on this becoming a default project manager – slash – workflow manager – slash – next gen email app.

Initial anticipation was met with confusion, which led to a bit of deflation among target users. But Google is not done with Wave and I think it would be good to look at the long term with this one. It’s a beta product, in development, slightly ahead of the curve regarding the fundamentals that will underpin it.

25) Google Wave Features

Wiki: Anyone can edit anything.

Playbackable: You can rewind and fast forward to see what/when additions were made.

Embeddable: Can be embedded in a website, like a video.

Real-time: In most instances, you can see what someone else is typing, character-by-character.

Google Wave is a real-time communication platform. It combines aspects of email, instant messaging, wikis, web chat, social networking, and project management to build one elegant, in-browser communication client. You can bring a group of friends or business partners together to discuss how your day has been or share files.

26) Google Wave Features: Widgets and Robots

Extensions: Gadgets (applications) and Robots (automated ‘smart’ conversation participants / scripts).

¨API was updated just this month to allow “push” inclusions in the wave from live data.

> “This means that waves can automatically update with info such as stock prices, weather updates or tweets without a specific action from users within the wave.”

http://mashable.com/2010/03/02/google-wave-api/

27) Google Wave Features: Open Source

Can be developed / extended

Can be hosted locally, like Microsoft Exchange Server

Attractive to early adopters

You may not think of open-source as a feature, but this may be the most important aspect of Google Wave. Open-source code fosters innovation by allowing developers to improve and correct code. Developers have the freedom to create a Wave server for their company or to create a branded version of Wave. Remember the Kent Anderson quote earlier? Open source, like open content, just encourages sharing, which encourages linking, which enables advertising.

> "Open-source is central to Google's strategy to foster quick adoption. And if people start using or even switching over to Google Wave, then it could very well be the game-changing communication tool that everyone has been waiting for."
>
> *(http://mashable.com/2009/05/31/google-wave-features/)*

28) Google Wave: Why?

Google Wave is developed to be like email for the social software set – editable, conversational, extensible, exportable.

If it takes off, Google will be even better positioned to oversee the world of online data and interaction, since the Wave is hosted.

> President Google?

Wave requires Google's underlying Javascript support, or something like it.

[Google May be Trying to Take Over the World:
and Why That's Not Necessarily a Bad Thing

Joshua Neds-Fox, Wayne State University

March 26, 2010]