Web 2.0: The Latest Gem to Spring

Special Report

The Latest Technology Gem to Spring from Silicon Valley

Of all places it was the garage where it was born. There, some 60 years ago, college pals Bill Hewlett and Dave Packard founded the firm that would later bear their name: Hewlett-Packard.

Of course, it might have been Packard-Hewlett, but Dave lost the coin flip.

Working within the cramped quarters of the twelve-by-eighteen-foot one-car shed, the enterprising young engineers toiled away, guided only by their desire to develop useful and innovative products. It was the start of what later became a $125 billion bellwether member of the Dow Jones Industrial Average.

But for the company that was begun with only $538 in startup money, its digital touchstones such as the pocket calculator and the desktop laser printer weren't the only contributions to spring from that $45-a-month workshop.

Located on that very spot on 367 Addison Ave in Palo Alto where the garage still stands, there sits a large bronze plaque. On it is this inscription: "Birthplace of Silicon Valley."

And ever since those early days in the valley, the race to find the next big thing has been on. Out of that old garage has sprung the entire digital age.

Not surprisingly, part of that race is now focused on the growth of Web 2.0. In fact, to a large extent, the web's latest version is picking up where the original left off.

That's what makes Web 2.0 not only potentially disruptive but seductive, because in its many forms it promises to deliver where the one-way communication of the first version failed.

That's why venture capitalists and entrepreneurs alike are now looking at various ways to cash in on this latest big wave in tech.

Web searching, social networking, and online video have all added spice to the scramble for VC attention as some 150 new companies and products fill the valley this fall in search of exposure and seed capital.

But as strong as the Web 2.0 wave has been within the confines of Silicon Valley, new data reveal that the Web 2.0 movement has now gone truly global.

In fact, according to figures from Dow Jones Venture One and Ernst & Young LLP, the number of global deals climbed 14% in the first half of this year.

The global research showed that investors directed some $464.2 million into 101 new deals worldwide in the first six months of the year. That was a 7% increase over the same period last year and represented the highest six-month total on record.

The researchers added that a 14 percent rise in the number of Web 2.0 deals was entirely attributable to the rising interest in the sector outside America--especially in Europe and Israel. US investments were virtually unchanged from the first half of 2006, with $357 million invested in 67 deals.

Other notable trends include:

- Despite seeing a flat first half, the US still dominated the Web 2.0 market, accounting for 66% of all deals worldwide and 77% of venture financing.
- The Bay Area was the busiest region in the US, with 25 deals accounting for $91 million. New England, the New York metropolitan area and Southern California are on pace to set annual records for Web 2.0 deals and investments.
- China posted just nine Web 2.0 deals, accounting for $41 million in investment, down from the $43 million invested in 12 deals during the same time last year.
- The median size of a Web 2.0 deal on a global basis was $4.6 million in the first six months. For US deals, the median size reached $5.2 million in the first half, the highest figure on record.
- The most active investors in Web 2.0 on a worldwide basis so far in 2007 are Sequoia Capital and Draper Fisher Jurvetson.

The Google Guys Come to Town

Those new investments merely followed the banner year that was put together by the industry last year when the big news was the YouTube buyout.

That's when the Google guys rocked the Street with the deal they cut for the social networking site. Sergey Brin and Larry Page's growing enterprise paid out a whopping $1.65 billion for the company.

To Sergey and Larry, that was merely a drop in the bucket. Together they are worth over $28 billion, according to Forbes.com. That's good enough to land them the twelfth and thirteenth spots on the Forbes 400 list of the richest Americans.

But as big as the YouTube deal was, other deals, while not as gigantic, were also impressive.

News Corp. struck first in July 2005, when it bought privately held Intermix Media for $580 million. The real target of the deal, though, was MySpace.com, Intermix's prime property.

Not to be outdone, Yahoo stepped up to the plate in April, when it paid $680 million for the portion of Right Media
those three deals added up to a price tag of well over $2.9 billion dollars.

That's not bad for a set of companies whose business models revolve around core products that they don't even produce. User-generated content and a strong brand name were all that was necessary to close each of the massive deals.

The big profits, each company hoped, would come later.

But what these deals marked was just part of the new gold rush to stake claims in a growing territory known as Web 2.0. And it's an idea that has grabbed the full attention of the markets.

In fact, besides the massive dollar amounts thrown around in these deals, venture capital firms invested more than $844 million in 167 Web 2.0 companies in 2006, according to data compiled by Ernst & Young along with Dow Jones.

That's a twofold increase over 2005.

So what are all of those dollars chasing in their pursuit of a piece of Web 2.0?

Simply put, it's the hope that the latest version of the net will finally fulfill the promise that Web 1.0 failed to deliver, namely an environment of richer content, more interactivity and better business models.

Whereas the original net was primarily a one-way affair with static pages, Web 2.0 engages its users in ways that the original version simply could not, thanks to technical innovations and the proliferation of broadband connections.

In short, what Web 2.0 is primarily about is you. Because in the end it represents the freedom to create, to express, and to contribute to the ongoing worldwide conversation. That's what makes it so powerful and potentially disruptive.

Take blogging, for example. It's Web 2.0 to the core. Sometimes called the "pajamas media," bloggers have beaten the mainstream media at their own game time and time again. Just ask Dan Rather.

Or better yet, consider the idea that Larry Sanger and Jimmy Wales brought to market in 2001. You've maybe never heard of these guys, but you have probably used what they helped to create. It's called Wikipedia, and it's the work of over 75,000 active contributors. And it continues to grow thanks to user-generated content. At last count, Wiki had some 5.3 million entries in 100 languages, dramatically more than it had in May 2001, when only 1,900 articles made up its pages.

But while blogs and wikis are certainly 2.0 as it gets, the category can be defined in a numbers of other ways.

According to Tim O'Reilly, who coined the term in 2003, Web 2.0 can refer to one or more of the following:

- The transition of web sites from isolated information silos to sources of content and functionality.
- A social phenomenon embracing an approach to generating and distributing Web content itself, characterized by open communication, freedom to share, and "the market as the conversation."
- Enhanced organization and categorization of content, emphasizing links and tags.
- A rise in the economic value of the Web, possibly surpassing the impact of the dot-com boom of the late 90s.
- "Network as a Platform," delivering applications entirely through a browser.

So how essentially does Web 2.0 differ from Web 1.0?

Here are the real world differences according to O'Reilly:

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Completely defining this new wave, however, isn't quite so easy. That's because what "Web 2.0" actually implies or requires can mean radically different things to different people. Typically, however, sites that can lay claim to being 2.0 exhibit or include some of these features:

(Note: Definitions for the italicized items can be found in the glossary.)

- Rich internet application techniques, optionally Ajax-based.
- Cascading Style Sheets to separate presentation from function.
- Semantically valid HTML and Microformats.
- Syndication and aggregation of data in RSS or Atom feeds.
- Readable URLs.
- Folksonomies (in the form of tags or tagclouds, for example).
- Wiki or forum software to support user-generated content.
- Use of Open Source software, such as the LAMP solution stack.
- XACML over SOAP for access control between organizations and domains.
- Weblog publishing.
- Mashups, merging content from different sources.
- REST or XML Web service APIs.

Disruption: Web 2.0 Style
That complicated set of acronyms and technical terms has translated into a whole new set of business models for entrepreneurs of every stripe. One example is in the real-estate business, where a falling housing market has become the latest of every agent's nightly worries.

That's because buried beneath the surface is something potentially more disruptive than any quiet open house could ever be.

It's called Redfin, and in many ways it is the real-estate industry's worst nightmare.

Redfin has picked up where Web 1.0 left off, by offering consumers access to the types of information that real-estate agents have traditionally tried to keep for themselves. In particular, Redfin allows buyers to access the same types of tools that agents themselves use to find and research homes for sale.

The result is that buyers can now do their own research online and find homes to purchase as easily as they might if they were buying something on eBay.

Redfin's licensed agents even handle all of the details of the purchase. And more than that, they rebate as much as two thirds of their commissions to the buyer. The average amount reimbursed to the buyer is about $10,000.

It's an intriguing and aggressive business model that hasn't earned the newly founded company many friends within the real-estate industry. But with what's at stake, that's hardly surprising. Real estate generates some $60 billion in commissions annually.

Undeterred by his lack of friends in the industry, Glenn Kelman, Redfin's CEO, only adds more fuel to the fire. "Real estate is by far the most screwed up industry in America," says the former software executive turned entrepreneur. "Agents fear us the same way stockbrokers feared E-Trade," says Kelman.

What makes realtors nervous, of course, is Kelman's endgame: completely removing real-estate agents and brokers from at least half of a home sale.

And to some extent, he is practically there.

In fact, according to statistics compiled by the National Association of Realtors (NAR), almost 80 percent of all home buyers currently use the Web to search for properties before they ever hook up with an agent.

That means that data-rich and service-oriented firms like Redfin can easily position themselves as an alternative to the traditional services of an agent, especially in an age when nearly everyone has become Internet savvy.

Of course, you can be forgiven if you still have your doubts. After all, Web 1.0 never really did manage to disrupt the business world in the ways so many observers predicted it would only ten years ago.

But quite a bit has changed over the last ten years. Simply put, it's just different this time around.


His work discusses in detail the growth of industry as an information-based service and how brokers and agents were previously the exclusive holders of all the "home for sale" data. You know, the applecart that Redfin is more than happy to upset.

"Web 2.0 is a different kind of Internet as a result of ubiquitous broadband, cheap hardware and open-source software," says Swanepoel in his report "Don't be caught off guard again and think that Internet companies will again fizzle and not affect your business," he warns. "This time around the Internet is going to finish what it started a decade ago and the new breed of business models, many Internet based, will collectively re-engineer the home buying and home selling process," Swanepoel said.

These same beliefs, of course, extend into a wide variety of businesses.

Web 2.0 is allowing consumers to make an end run around various industry gatekeepers as the free flow of opinion and information tears down the traditional walls that so many businesses have put between themselves and their audiences.

But Redfin is only one of the many Web 2.0 companies making waves within the marketplace. That's because real-estate agents won't be the only ones to have their industry transformed by the power of the Web's second act.

Other Web 2.0 companies to watch include:

* Meebo: www.meebo.com. A website for instant messaging from absolutely anywhere. Whether you're at home, on campus, at work, or traveling foreign lands, hop over to meebo.com on any computer to access all of your buddies (on AIM, Yahoo!, MSN, Google Talk, ICQ and Jabber) and chat with them, no downloads or installs required, for free!

* StumbleUpon: www.stumbleupon.com. A free, downloadable browser button that lets people rate and recommend Web sites to their friends as they "stumble" around the Internet.

* Pandora: www.pandora.com. Your personal Internet radio station. Just drop the name of one of your favorite songs or artists into Pandora and let the Genome Project go. It will quickly scan its entire world of analyzed music, almost a century of popular recordings—new and old, well known and completely obscure—to find songs with interesting musical similarities to your choice. Then sit back and enjoy as it creates a listening experience full of current and soon-to-be favorite songs for you.

* Twitter: www.twitter.com. A text messaging service that lets people send notes to groups.

* EyeSpot: www.eyespot.com. Upload your video to Eyespot and use its tools to edit it and publish it on other sites.

* Songbird: www.songbirdnest.com. Download Songbird to play music from a host of sources. Called the potential "iTunes killer."


* Del.icio.us: www.del.icio.us. Store your bookmarks online, which allows you to access the same bookmarks from any computer and add bookmarks from anywhere. You can also use del.icio.us to see the interesting links that your friends and other people bookmark, and share links with them in return. You can
even browse and search del.icio.us to discover the cool and useful bookmarks that everyone else has saved—which is made easy with tags.

- Netvibes: www.netvibes.com. Netvibes lets individuals assemble in one place their all of favorite websites, blogs, email accounts, social networks, search engines, instant messengers, photos, videos, podcasts, widgets, and everything else they enjoy on the Web.


Technorati is the recognized authority on what's happening on the World Live Web. They search, surface, and organize blogs and the other forms of independent, user-generated content (photos, videos, voting, etc.) increasingly referred to as "citizen media."

So while the heyday of that dusty old garage has long since passed, the entrepreneurial spirit that Hewlett and Packard brought to that sleepy valley and the world 60 years ago is as strong as ever. The venture capital chasing these new Web 2.0 deals worldwide only proves it.

That's why to a large extent the future is where it has always been: in technology. The new web is just a piece of it.

But no matter how you choose to define it, the Web 2.0 movement is well underway.

Just ask the guys who got that huge check from Larry and Sergey—if you can find them.

Wishing you happiness, health, and wealth,

Steve Christ, Editor

P.S. Web 2.0 is chock full of terminology and jargon, so we've put together a glossary of all the pertinent terms. Check them out below.

**Web 2.0 Glossary**

**Rich Internet Applications** are web applications that have the features and functionality of traditional desktop applications. They typically transfer the processing necessary for the user interface to the web client but keep the bulk of the data (e.g., maintaining the state of the program, the data, etc.) back on the application server.

**Ajax** is a web development technique used for creating interactive web applications. The intent is to make web pages feel more responsive by exchanging small amounts of data with the server behind the scenes, so that the entire web page does not have to be reloaded each time the user requests a change. This is intended to increase the web page's interactivity, speed, functionality, and usability.

**API:** An application programming interface (API) is a source code interface that a computer application, operating system or library provides to support requests for services to be made of it by a computer program.

**Atom:** The name Atom applies to a pair of related standards. The Atom Syndication Format is an XML language used for web feeds, while the Atom Publishing Protocol (APP is the acronym, but it is referred to as 'AtomPub' for short) is a simple HTTP-based protocol for creating and updating Web resources.

**Cascading Style Sheets** is a style sheet language used to describe the presentation of a document written in a markup language. Its most common application is to style web pages written in HTML and XHTML.

**Folksonomies**, also known as collaborative tagging, social classification, social indexing, social tagging, is the practice of creating and managing tags to annotate and categorize content. In contrast to traditional subject indexing it is not only generated by experts but also by creators and consumers of the content. Usually, freely chosen keywords are used.

**HTML**: short for HyperText Markup Language, it is the predominant markup language for web pages.

It provides a means to describe the structure of text-based information in a document—by denoting certain text as headings, paragraphs, lists, and so on—and to supplement that text with interactive forms, embedded images, and other objects. HTML is written in the form of labels (known as tags) surrounded by angle brackets.

**LAMP**: The acronym LAMP refers to a solution stack of software, usually free/open-source software, used to run dynamic Web sites or servers. The original expansion is as follows:

- Linux, referring to the operating system;
- Apache, the web server;
- MySQL, the database management system (or database server);
- PHP, the programming language.

The combination of these technologies is used primarily to define a web server infrastructure, define a programming paradigm, and establish a software distribution package.

**Mashups**: A web application that combines data from more than one source into a single integrated tool. A typical example is the use of cartographic data from Google Maps to add location information to real-estate data from Craigslist, thereby creating a new and distinct web service that was not originally envisaged by either source.

**Microformats**: A web based data formatting approach that seeks to re-use existing content using only XHTML and HTML classes and attributes. This approach is intended to allow information intended for end-users (such as contact information, geographic coordinates, calendar events, and the like) to also be automatically processed by other software. Using microformats within HTML code provides additional formatting and semantic data that can be used by applications. These could be applications that collect data about online resources, such as web crawlers, or desktop applications such as email clients or scheduling software.

**Open Source**: A set of principles and practices that promote access to the design and production of goods and knowledge. The term is most commonly applied to the source code of software that is available to the general public with relaxed or nonexistent intellectual property restrictions. This allows users to create software content through incremental individual effort or through collaboration.
REST: Representational State Transfer (REST) is a style of software architecture for distributed systems such as the World Wide Web. The term was introduced in the doctoral dissertation of Roy Fielding in 2000, one of the principal authors of the Hypertext Transfer Protocol (HTTP) specification. It has since come into widespread use in the networking community.

REST strictly refers to a collection of network architecture principles that outline how resources are defined and addressed. The term is often used in a looser sense to describe any simple interface that transmits domain-specific data over HTTP without additional messaging layers.

RSS is a family of web feeds formats used to publish frequently updated content such as blog entries, news headlines or podcasts. An RSS (Really Simple Syndication) document, which is called a “feed,” “web feed,” or “channel,” contains either a summary of content from an associated web site or the full text. RSS makes it possible for people to keep up with their favorite web sites in an automated manner that's easier than checking them manually.

Social Bookmarking: A way for Internet users to store, organize, share and search bookmarks of web pages. In a social bookmarking system, users save links to web pages that they want to remember and/or share. These bookmarks are usually public, but depending on the service’s features, may be saved privately, shared only with specific people or groups, or shared only inside certain networks.

Tags: A relevant keyword or term associated with or assigned to a piece of information (e.g., a picture, a geographic map, a blog entry or video clip) as a whole or only to a part of it (e.g. “timed tags” assigned to a specific moment in time in a video). For purposes of keyword-based classification and search of information, Tags can be assigned to a piece of information by its author/creator or by consumers/viewers/community.

Weblog: A website where entries are written in chronological order and commonly displayed in reverse chronological order. “Blog” can also be used as a verb, meaning to maintain or add content to a blog.

Many blogs provide commentary or news on a particular subject such as food, politics, or local news; others function as more personal online diaries. A typical blog combines text, images, and links to other blogs, web pages, and other media related to its topic. The ability of readers to leave comments in an interactive format is an important part of many blogs.

Wiki: A medium that can be edited by anyone with access to it, and that provides an easy method for linking from one page to another. Wikis are typically collaborative websites. One of the best-known wikis is Wikipedia.

XACML: Stands for eXtensible Access Control Markup Language. It is a declarative access control policy language implemented in XML and a processing model describing how to interpret the policies.

XML: The Extensible Markup Language (XML) is a general-purpose markup language. It is classified as an extensible language because it allows its users to define their own tags. Its primary purpose is to facilitate the sharing of structured data across different information systems, particularly via the Internet.

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