# "The Innovators"
# The Age of the Digital Revolution

## "How a Group of Hackers, Geniuses and Geeks Created the Digital Revolution."



**Session 8**

# Session 8

- **On Line, Con't.**

- **Ada Forever**

# Justin Hall and How Web Logs Became Blogs

- As a college freshman in 1994, Hall read a story about Mosaic. He decided to start a web site using an Apple PowerBook and MacHTTP that was free.

- His site, *Justin's Link From the Underground*, went up in mid Jan 1998. It offered one of the earliest guided tours of the web. Others started finding it. He just wrote what ever came to mind. Often TMI.

- There were no Web directories or search engines other than a few staid university sites. Others wrote in and sites were listed.

- *Justin's Link From the Underground* became the spiky pathfinder for a proliferation of directories, such as Yahoo, then Lycos and Excite

- Hall became the Jonny Appleseed of web logging.

# Blogs, con't.

- Hall became a free-lance writer of the video game industry.

- **In 1997, a John Barger**, who produced a fun website, *Robot Wisdom*, coined the term weblog, two years later a web designer, Peter Merholz, broke the word back to 'we blog.' Blog entered common parlance in 2003.* **By 2014 there were> 850M blogs in the world.**

- Blogging was not appreciated by the word crafting elite. But an early proponent, Arianna Huffington, pointed out early on that people decided to partake in these acts of social discourse because they found then fulfilling.

\* OED, March 2003, *blog,* both a noun and a verb.

# Ev Williams and Blogger

- **Blogger, a tool that converted typed text into scripts and the commands, needed to populate a blog and place it on a server.**
  - **Simply: Type this and click here.**
    - **Williams little product helped democratize publishing.**

      **- Push button publishing for the people, was his mantra.**
    - **Williams gave away Blogger hoping to entice sales of a more powerful tool. But he was nearly bankrupt.**
- **Dan Bricklin gave him cash to stay in business and worked with Lotus founder, Mitch Kapor, to keep it solvent.**
- **It was one of Google's early purchases.**
- **It sustained the Blogosphere**
- **Williams went on to co-found Twitter.**

# Justin Hall in the beginning (1994) Three Slides Back

- When Hall developed his "quirky" website in Jan 1994 there were 700 web site in the world, by the end of the year there were 10,000; by the end of the next year there were 100,000.
- The PC and networks allowed anyone to get content from anywhere and distribute theirs to anyone.
- But how do you find the sites?
- For this exploding universe to be useful there needed to be an easy means for the human-computer- network to find what they wanted.

# Follow Me On Twitter

Diane Rehm - A **#New Years Eve** treat: At 10/9C, we bring back our chat with **#jazz** great Herbie Hancock (song and video included): **http://wamu.fm/1zuenv3**

- **What is following?**
  - Following someone on Twitter means:
  - You are subscribing to their Tweets as a follower.
  - Their updates will appear in your **Home** tab.
  - That person is able to send you **direct messages**.
- **What/who are followers?**
  - Followers are people who receive your Tweets. If someone follows you:
  - They'll show up in your **followers list**.
  - They'll see your Tweets in their home timeline, whenever they log in to Twitter.
  - You can send them **direct messages**.

# How Did the # [pound sign] Become a Hashtag?

- **Hashtags are used on Twitter, Facebook and Instagram. The # symbol goes in front of a word or words to group that tweet or post with other tweets or posts about the same topic.**

- **It all started back on Aug. 23, 2007 with a tweet by San Francisco techie and former Google developer Chris Messina. He wrote on Twitter, "How do you feel about using # (pound) for groups, as in #barcamp [msg]?"**

- **At first, Messina said he was dismissed by most in the tech community, including Twitter.**

- **"People were *like*, that's weird, that's kind of dumb. You do whatever your things is, and we'll keep complaining about the problem." He said.**

# # [pound sign]

- **Messina came up with the hashtag to find an easy way to bring together people discussing the same topic online.**

- **He chose the # symbol because it was an <span style="color:red">easy keyboard character to reach on his 2007 Nokia feature phone</span> and other techies were already using it in other internet chat systems.**

- **"I didn't need to invent something new." He said. "This is good enough. I'm going to go with this."**

- **Two days later, another techie, Stowe Boyd, suggested the # symbol be called <span style="color:orange">a hashtag</span>. "It just sounds catchier," said Messina.**

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# Podcast — Disruptive
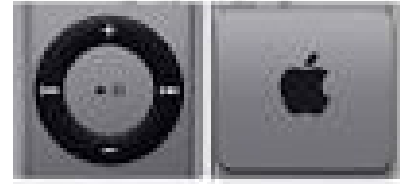
- Merriam Webster defines Podcast: a program (music or talk) made available in digital format for automatic download over the Internet.

- Podcasting is both a converged medium bringing together audio, the web and portable media player, and *a disruptive technology* that has caused some in the radio business to reconsider some of the established practices and preconceptions about audiences, consumption, production and distribution

- This idea of *disruptiveness* is largely because no one person owns the technology; it is free to listen and create content, which departs from the traditional model of "gate-kept" media and production tools.

- It is very much a horizontal media form: producers are consumers and consumers become producers and engage in conversations with each other.
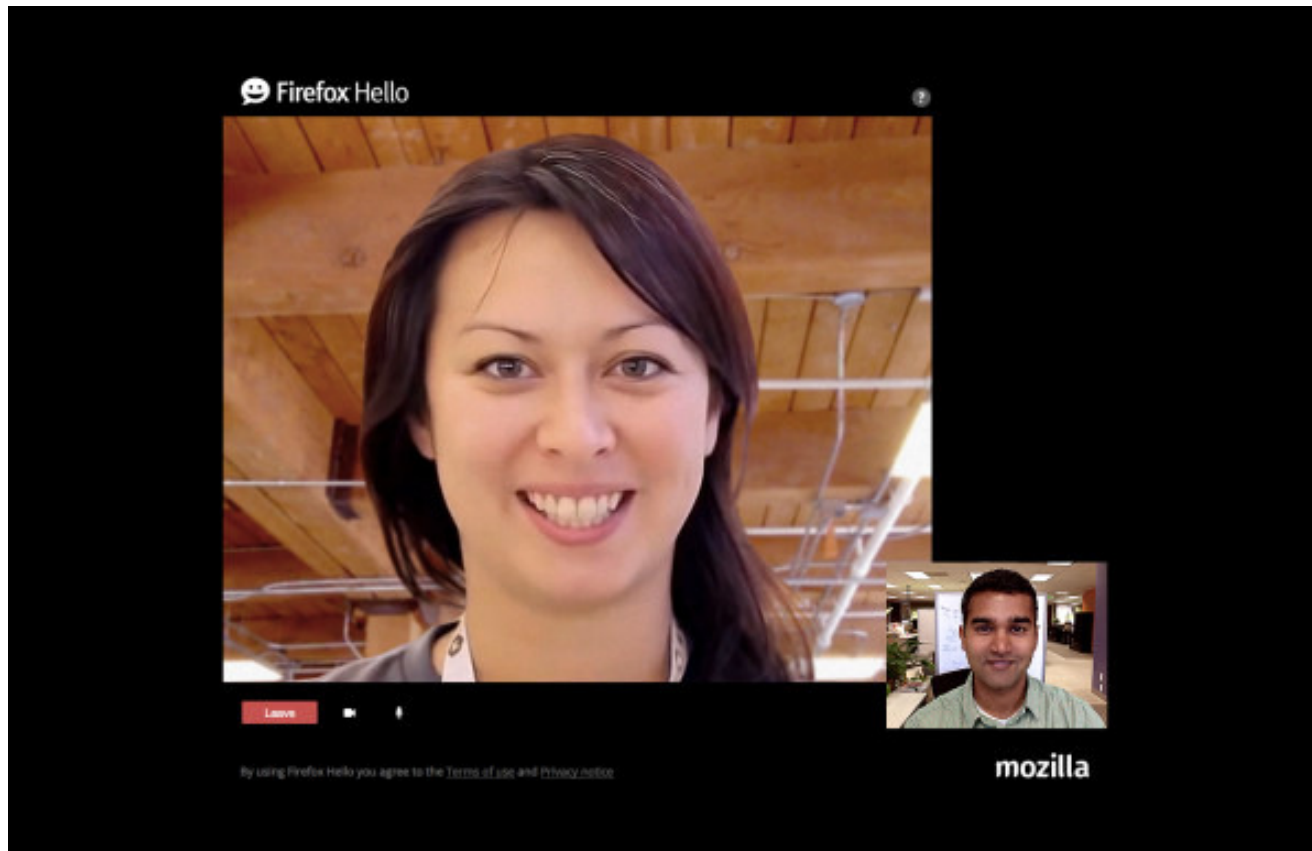
# Firefox Hello

**The easiest way to connect for free over video**

**Start right from Firefox and invite anyone, anywhere to have a conversation. All they have to do is click a link to join. There's no account or sign-in required.**

# Ward Cunningham, Jimmy Wales and Wikis

- **Unfettered Wikipedia took off: It became to the Web content what GNU/Linux was to software: A peer to peer *commons* collaboratively created and maintained by volunteers who work for civic satisfaction.**

- **One month after launch it had 1000 articles. By Sept 11th 2 it had 10,000 article.**
  - **After the WTC attack it scramble to include articles on the Trade Center and its architect**
  - **By 2002 40,000 articles. By March 2003 100,000 articles with 500 active editors**
  - **It grew in both governance and content, in 2014 there were 30 million articles, 4.4 million in English and content in 278 languages from Afrikaans to Zemaitska.**
  - **BY contrast the Encyclopedia Britannica, now on line only has 87,000 articles.**

# Wikipedia

**Internet**

-----------------------------------------------------------------

**From Wikipedia, the free encyclopedia**

- *This article is about the worldwide computer network. For other uses, see Internet (disambiguation)\*. Not to be confused with the World Wide Web.*
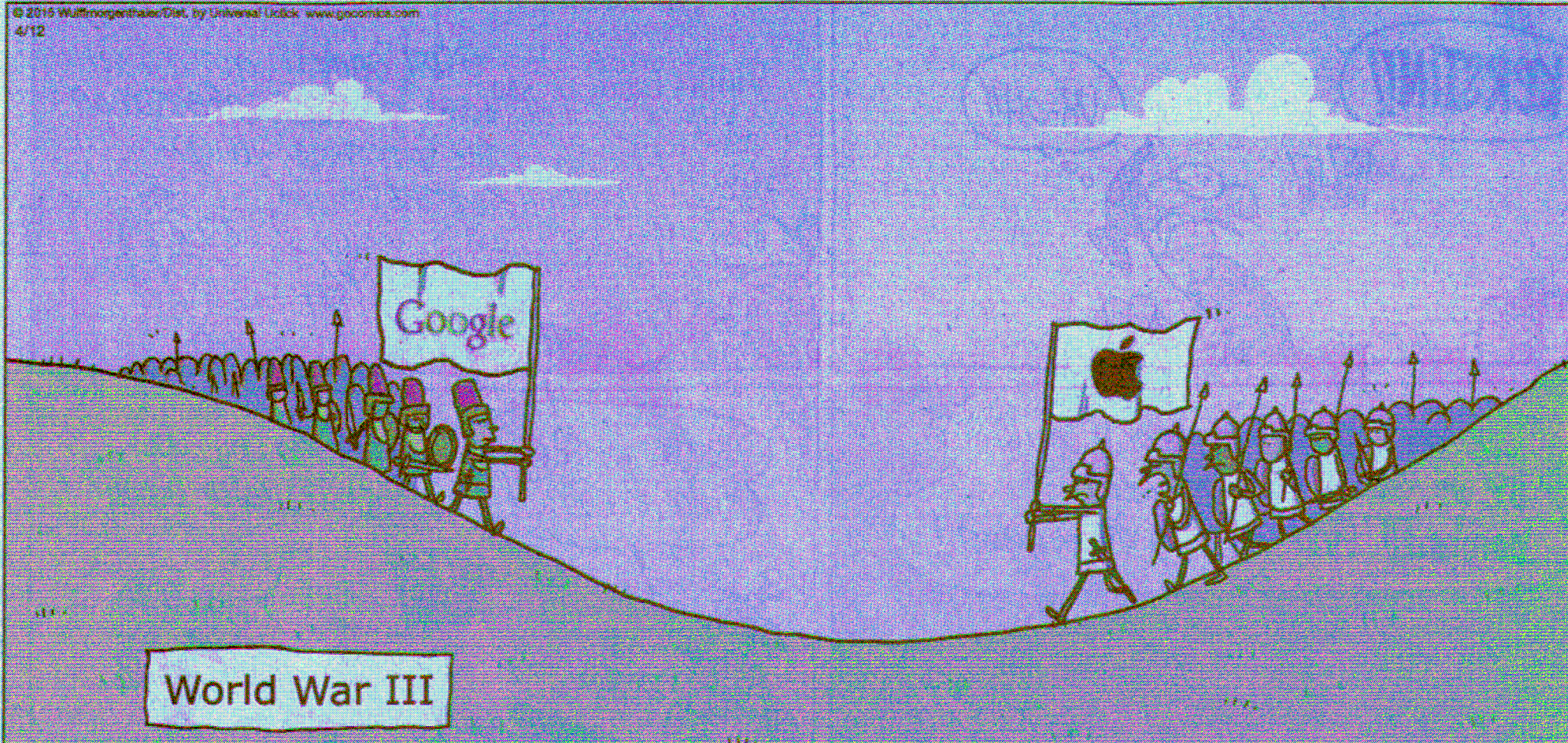
**The Internet is a global system of interconnected computer networks that use the standard Internet protocol suite (TCP/IP) to link several billion devices worldwide. ……..**

**\* Disambiguation refers to the removal of ambiguity by making something clear**

**WUMO**

*By Mikael Wulff & Anders Morgent.*
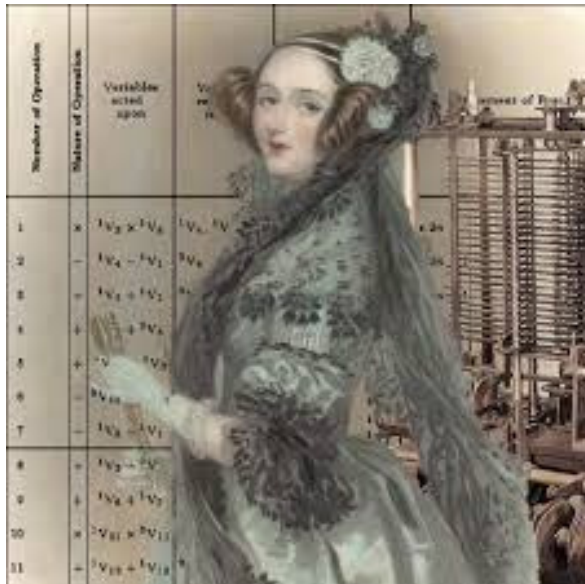


World War III

- **Ada Forever**

  - **Lady Lovelace's Objections
    - Artificial Intelligence**
  - **Human-Computer Symbiosis:
    Watson, Come Here**
  - **Some Lessons from the Journey**
  - **Ada's Lasting Lessons: Poetical
    Science**

# Let's begin, Countess Ada



Granularity

# What Else Did Ada Visualize?

- The metaphysical topic of artificial intelligence — Can computers think?

- Ada believed not.

- "*A machine can perform operations as instructed, but could not come up with ideas or intentions of its own…it has no power to anticipate any analytic relations or truths.*"

- "Lady Lovelace's objections" as dubbed by Alan Turing* a century later.

*of *The Imitation Game movie* fame

# Lady Lovelace's Objection

- **One of the most popular objections to the claim that there can be thinking machines is suggested by a remark made by Lady Lovelace in her memoir on Babbage's Analytical Engine:**

**"The Analytical Engine has no pretensions to originate anything. It can do whatever we know how to order it to perform." ***

**\*Stanford Encyclopedia of Philosophy (cited by Hartree, p.70)**

# Tim Berners-Lee on Thinking Computers

- He posed an interesting point on thinking computers vs a human.

- **How the human brain makes <u>random associations</u>.**

- Example: The fresh smell of coffee in the morning conjures up the red dress a friend wore, when you last had coffee with her. Remembering the woman was important, not the coffee.

- A human would make the association, whereas a machine would only know to make that associations that is has been programmed to make.

- HAL might have known — or…

# Commander Data Would Make the Inference, But He Was One-of-a Kind



Data is a Soong-type android with an ultimate storage capacity of eight hundred quadrillion [one thousand million million] bits and a total linear computational speed rated at sixty trillion operations per second.

Data has a positronic net.

Cmdr. Data asserts that he not only **perceives** data and facts, but also the **"substance" and" flavor"** and other ineffable qualities of the experience, which would be <u>lost when downloaded to a conventional computer</u>.

**From:** *en.memory-alpha.org/wiki/Data*

# The Next Decade Cliff

- **Some of our geniuses and hackers from the 1930s on have been chasing the holy grail of the computer that can: [1] replicate itself, [2] think for itself and [3] exceed human capabilities.**

- **So far, It has always just one decade away.**

- **Bush, with all his insight looked at the computer as an aid to human accomplishment not a threat.**

# Tests

- **Ada Test: Could it originate thoughts that go beyond what it is programmed to do?**
- **Turing test: A person asking a question could not distinguish whether the answer came from a human or a machine. He also believed that some day computers could behave like humans. Critics countered that they could not show affection or crave intimacy.**
- **Licklider Test: Does human/machine symbiosis perform better than that of a machine alone?**
- **Berners-Lee test: Can a computer make random associations?**

# Human-Computer Symbiosis [H-CS] Watson, Come Here

- **Artificial intelligence efforts now trend toward the H-CS. Human strengths  through, reasoning,  perceptions and emotions keep pushing the cliff out.**

- **The computers continue to do better with their functions to hold, sort and find specific data needed by their human collaborators/masters.**

- **IBM is mow investing $500 million on this approach, the Watson.**

# Why Google's Robot Personality Patent Is Not Good for Robotics*

- Imagine a robot that can root through your e-mails, texts, or phone calls, use your speech patterns to gauge your emotional state, and modify the way it interfaces with you in response.

- Google has imagined this and, as of last month, owns a patent on the process. But is this a good thing? Regardless of whether you think this is a good idea, at this stage it's only an process.

- Observation:  Generally speaking, when companies like Google lock down this type of early conceptual process; it prevents others from working on the actual technical breakthroughs. Unless they see a work-around that can be profitable.

**\*IEEE Spectrum May 2015**

| Ada | 1935 | 1990 | Now |
|---|---|---|---|

**The Computer:  From a Building to a Laptop**
**Programing: Apart, complex and arduous to integrated**

**The Transistor, The Microchip, nanotechnology**

**Video Games: The  GUI**
**The Internet: The  World Wired**

**Application Software: We have an App for that**
**On-Line**

**The Personal    Computer**

**The    Web**

**Seminal Ideas That Pushed the Digital Revolution**

**Human Computer Symbiosis**

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**Ada Forever**

# "Some Lessons from the Journey—1"

- **Creativity is a collaborative process. <span style="color:red">Innovation comes more from teams than individual</span> light bulb moments.**

- **Often advances are expansions of ideas that exist, but need a lot of fine tuning. The <span style="color:red">digital revolution built on ideas</span> that were handed down from previous generations.**

- **The most productive teams were those that brought together people with a <span style="color:red">wide array of talents</span>: Bell Labs.**

- **Meetings between people produce more results faster and can not be replicated digitally. In Silicon Valley predictions that digital tools would allow productive telecommuting did not work well.**

# "Some Lessons from the Journey—2"

- **Success through the <span style="color:red">pairing</span> of visionaries with the ideas with strong capable managers and implementers. From the <span style="color:red">Stanford ethos</span>: A great idea is nothing ; if it can't be produced and used.**

- **Like the computer the ARPANet and Internet were designed by collaborative teams. <u>Here a collaborative process produced a system to aid collaboration</u>.**

- **The wisdom of crowds where individuals did not know each other but collaboratively built innovative systems: Google's Page Rank, Wikipedia's entries, GNU/Linux OS. <span style="color:red"><u>Commons</u></span> based production by peer networks.**

- **Private enterprises and the inherent profit motive significantly produced collaborative teams.**

# "Some Lessons from the Journey—3"

- **Innovation is most vibrant in the realms where open–source <span style="color:red">systems compete</span> with proprietary systems: Mozilla Firefox vs. Microsoft Explorer**

- **A lesson of modern economics that applies to digital innovation: A combination of all the ways of sharing production—government, market and peer sharing — is stronger than favoring any one of them.**

- **The most successful endeavors of the digital age were those run by leaders who <span style="color:red">fostered collaboration</span> while providing a clear vision. Good example: Robert Noyce, Intel; Bad example: William Shockley, Beckman Instruments**

- **The <span style="color:red">successful innovators were <u>product</u> people</span>.**

- **<span style="color:red">Man is a social animal</span>, most digital products whether by design or not were taken by users to create communities and communicate with others.**

# Economic Models That Drive the Digital Revolution

- **Hardware is a product**
  - **Buy outright**
  - **Lease, think cell phone**
  - **Communications**
  - **Internet is collaborative**
  - **Line rental**
  - **Software**
  - **Buy/license -- Microsoft**
  - **Collaborative Freeware**
    - Linux
    - Mozilla/Firefox
    - Wikipedia

- **"Free" Information with Ads**
  - **Data – Google**
  - **Email with ads**
    - Yahoo
    - G Mail
    - Verizon
    - Social Media
  - **Paid Information**
  - **Netflix w/coming attractions**
  - **Hulu**
  - **Apple TV**

# Probing Questions

- **"What were the talents that allowed certain inventors and entrepreneurs to turn their visionary ideas into *disruptive* realities?**
  - **They had problems to solve**
  - **They were Hackers**
  - **Academic environments**
  - **Persistent**
  - **Innovation requires the right primordial soup and they were at the right places at the right times**

# Probing Questions

- **What led to their creative leaps?**
  - **In addition to the right time and the right place, the technology was available to them or they could extrapolate their day's technology further**
  - **They had collaborators**
  - **The teams that formed, clicked**
  - **Many were entrepreneurs and saw fame and fortune and were driven**

# Probing Questions

- **Why did some succeed and others fail?"**
  - **Dumb luck, the right idea for some and wrong idea at the wrong time for others**
  - **They beat the Competition or succumbed to it**
  - **The technology just wasn't there yet**
  - **The market for their idea/product was not mature enough**
  - **In later years, mature venture capital underwrote many ideas**

# Innovators [Companies] Who Stumbled and Lost the lead

- **Example 1: Often the small "silicon valley" engineering team was there, but not the business collaborator. If there is no product or service, to what avail?**

- **Example 2: For some of the established business organizations: Their organizational structure, lack of vision or imagination, bureaucratic lethargy, protection of an investment got in the way of being the leader.**

  - **Think IBM not interested in the InterNet IMP. IBM — had a large mainframe mentality, sold off the PC to the Red Chinese.**

  - **Bell Labs using the transistor but cautious about expanding its development.**

  - **Xerox not capitalizing on the remarkable list of PARC's products. Xerox through PARC — could have had a lock on the PC, they settled on making $1M investment in Apple** 33

# Innovators [Companies] Who Stumbled and Ultimately Failed

- **AT&T** investment in the their **telephone networks** confronted by the roll out of the packet based internet. AT&T wanted to protect their telephone monopoly and were 'end-runed' by numerous innovators. **There is a new and different AT&T now.**

- Ken Olsen at **DEC** not visualizing that there was a market for a **personal PDP-8.** DEC — did not move away from the mini-computer office and commercial market fast enough.

- An Wang of **Wang Laboratories** — did not see a market beyond the commercial office.

- **RCA** did not recognize the advantages of LCD.

## A Beneficial locus —
## Social  Upheaval, Academic Setting, a Flow of Ideas and Products and venture capital
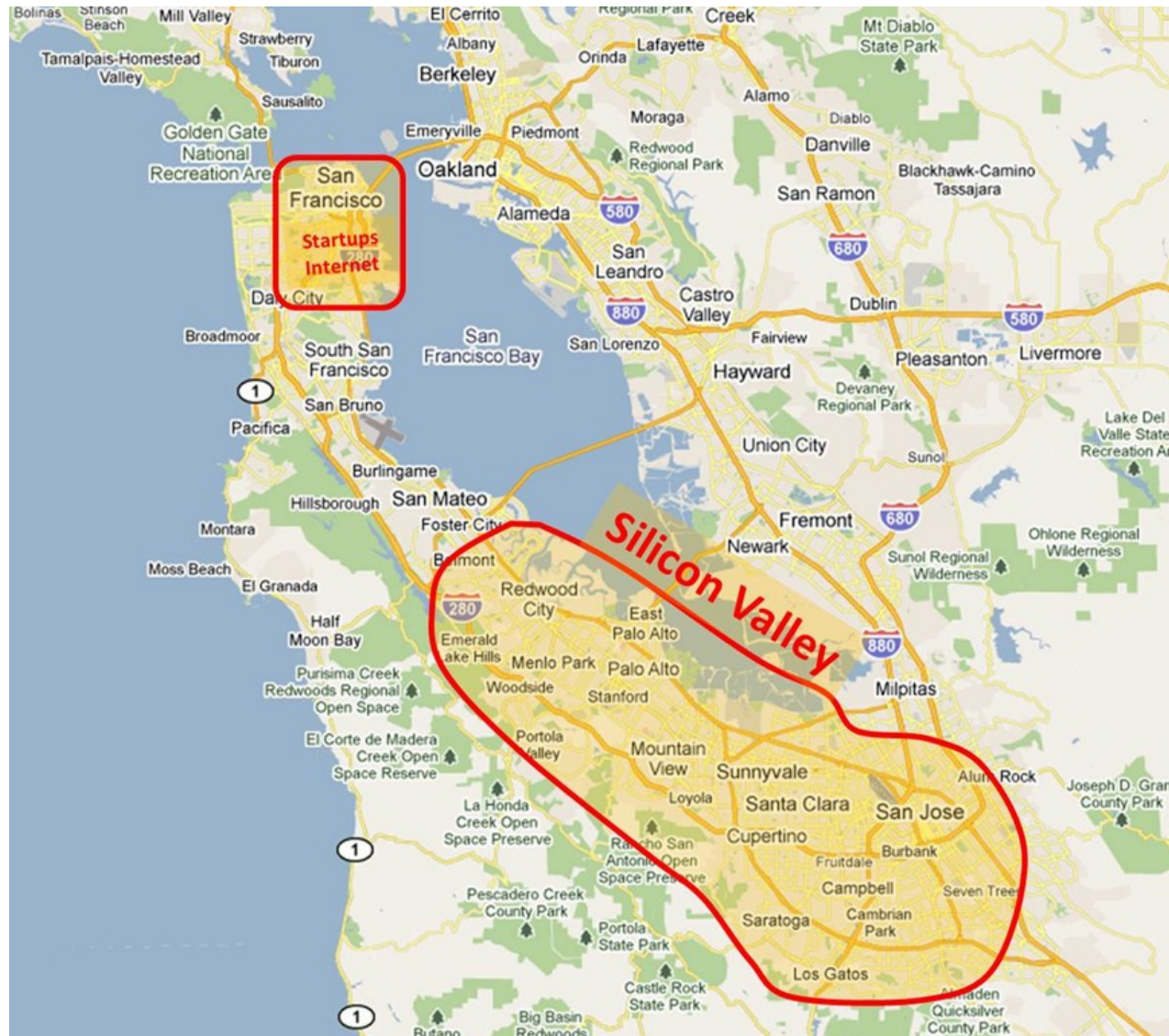
# The New Silicon Alley

- ## Watson, IBM's new research center near Greenwich Village in Manhattan



The Flatiron District was the cradle of Silicon Alley, located on Fifth Avenue near Broadway and 23rd Street, straddling Midtown and Lower Manhattan.

Silicon Alley, centered in Manhattan, has expanded into a sphere encompassing the NYC's metropolitan region's high tech industries:
- The Internet
- New media
- Telecommunications
- Digital media
- Software development
- Biotechnology
- Game design
- Financial technology
- Information technology supported by the area's entrepreneurship ecosystem and venture capital investments.

As of October 2014, NYC hosted 300,000 employees in the tech sector.

# Digital Revolution has a Political Side

- March 21, 2015. President Barack Obama will name Shailagh Murray, a former Washington Post and Wall Street Journal reporter, to serve as his new senior adviser, and has tapped Jason Goldman, a Silicon Valley veteran, to become the White House's first-ever chief digital officer.

  Murray replaces Dan Pfeiffer as a member of the president's core team of advisers, and Goldman will take over and expand Pfeiffer's role overseeing digital outreach by heading up an amped-up **<span style="color:red">Office of Digital Strategy.</span>**

- Goldman's résumé includes Google, Medium, and Twitter, where he worked directly with co-founders Ev Williams and Biz Stone, serving as the first "head of product," supervising managers, designers, an experts in user research and corporate marketing to develop effective outreach strategies.

- Goldman, who worked on a two-week engagement project for the White House last month, will report directly to chief of staff Denis McDonough.

- "Goldman brings new energy and coveted expertise as someone who's helped shape the digital age," Obama said.

# Breaking the glass ceiling, but she is a bean counter



March 18, 2015. Google has appointed Ruth Porat, currently Chief Financial Officer at investment bank Morgan Stanley, to take over its finances. Ms Porat starts on May 26th and will replace Patrick Pichette, who announced his departure from Google abruptly earlier this month.

During her time on Wall Street, Ms Porat had a key role in several large technology initial public offerings and fundraisings, so is very familiar with technology finance. While a technology banking executive at Morgan Stanley she advised clients including Amazon, Priceline and EBay.

Ms Porat has become one of the most powerful women on Wall Street and will become one of the most powerful women in technology. A move to Mountain View, California, where Google is headquartered, is a move home for Ms Porat, as she is a graduate and board member of Stanford University.
Ms Porat said: "I am delighted to be returning to my California roots… I can't wait to roll up my sleeves and get started."

# Sheryl Sandberg, Not a Geek or Hacker. Removed Workplace Flexibility to Enhance On-Site Collaboration.

## Bean Counter



- She is the **Chief Operating Officer of Facebook**. In June 2012, she was elected to the [board of directors](#) by the existing board members becoming the first woman to serve on Facebook's board.

- Before Facebook, Sandberg was Vice President of Global Online Sales and Operations at Google, and was instrumental in launching Google's philanthropic arm Google.org.

- Before Google, Sandberg served as chief of staff for Treasury Secretary, Larry Summers.

- In 2012 she was named in the Time 100, an annual list of the 100 most influential people in the world according to *Time*.

- As of January 2014, Sandberg is reported to be worth over $1 billion, due to her stock holdings in Facebook and other companies.

**For nearly three years, CEO Marissa Mayer has tried to reinvent Yahoo. Bean Counter again.**

Yahoo, the Web search and services company reigned supreme in the early days of the Internet. But the incredible growth of Google's search engine and Web advertising business drained away revenue that once would have been Yahoo's.

Mayer, a former senior Google executive, was recruited to put Yahoo back on track to growth. Reviews are mixed on Mayer's performance so far. Some have said that Mayer has done little to fix Yahoo's fundamental issues, pointing to the company's poor financials and falling search ad revenue.

Still others note that it took turnaround experts, including Apple co-founder Steve Jobs, several years before they could truly make a difference in their ailing companies. Despite the criticism, Mayer is persevering with a strategy she believes will lead to future success.

# Ada's Poetical Science

- Her mind-set of "poetical science" led her to ask questions about the Analytical Engine (as shown in her notes) examining how individuals and society relate to technology as a <span style="color:red">collaborative</span> tool.

- She pointed out that in our symbiosis with machine we humans have brought one crucial element to the partnership: <span style="color:red">Creativity.</span>

# Isaacson Had Difficulty Ending the Volume

- For the simple reason that we are on a point in a continuum.
- "Much of the first round of innovation involved pouring old wine—books, newspaper, opinion pieces, journals, songs, TV shows, movies into new digital bottles.
- But new platforms, services and social networks are increasingly enabling fresh opportunities for individual imagination and collaborative creativity."
- Each day brings new innovations.
- Have we reached the point of diminishing returns?
- Not to put a fine point on it; do I need an Apple watch?

# Here is a fine Point

## Verizon Agrees to Buy AOL for $4.4 Billion

### Wireless Giant Gets Ad Technology for Mobile Video; AOL Chief Tim Armstrong to remain*

- The acquisition would give Verizon, which has set its sights on entering the crowded online video marketplace, access to advanced technology AOL has developed for selling ads and delivering high-quality Web video.

- Verizon has said it plans to launch a video service focused on mobile devices this summer. The service would offer a mix of paid, free and ad-supported content and wouldn't try to replicate traditional TV.

*WSJ May 12,2015

**The little Smart Phone is clearly more interesting than the "old" picture. Ancient history, for Millennials, is anything before their birth.**

# Digital Revolution Wrap Up

- **What was called in the late 1930s the Turning machine is today call the Computer.**

- ***"The Digital Age could not be come truly transformational until computer became truly personal."***                ***Isaacson***

- **30**

- **ngw4@verizon.net**

# Appendix

- **Cloud computing**
- **Big Brother, Computers and Privacy**
- **An Evolving Use of Systems and Products**
- **Web 2.0**
- **Amazon's Green Swedish Center $CO_2$ Negative System**
- **New Credit Cards Features**
- **So you went to Web Site, Who Knows?**

# Ubiquitous

- **From an academic beginning in the US in the early 1960s, the Internet is now part of the daily personal and business of virtually everyone.**

- **I put this course together with significant help from the internet with simple tools.**

- **My younger grandsons, 4 and 7, use the internet as just a part of daily life. The 9 and 12 year olds are in a different world, but they still communicate verbally with their elderly fossils.**

# Cloud Computing or the Cloud

- Think the old dumb terminal, but now connected to the world

- The Cloud shares resources to achieve coherence and **economies of scale**, similar to a utility [like the **electricity grid**] over a network. The foundation of cloud computing is the broad concept of **converged infrastructure** and **shared services**.

- An organization "Moving to cloud" drops traditional buy dedicated hardware and depreciate it over a period of time to a shared cloud infrastructure paid for as one uses it.

- Cloud computing focuses on maximizing the effectiveness of multi-vendor shared resources. These are not only shared by multiple users but are also dynamically reallocated by demand

- This maximize the use of power. With cloud computing, multiple users can access a single server to retrieve and update their data without purchasing licenses for different applications [maybe].
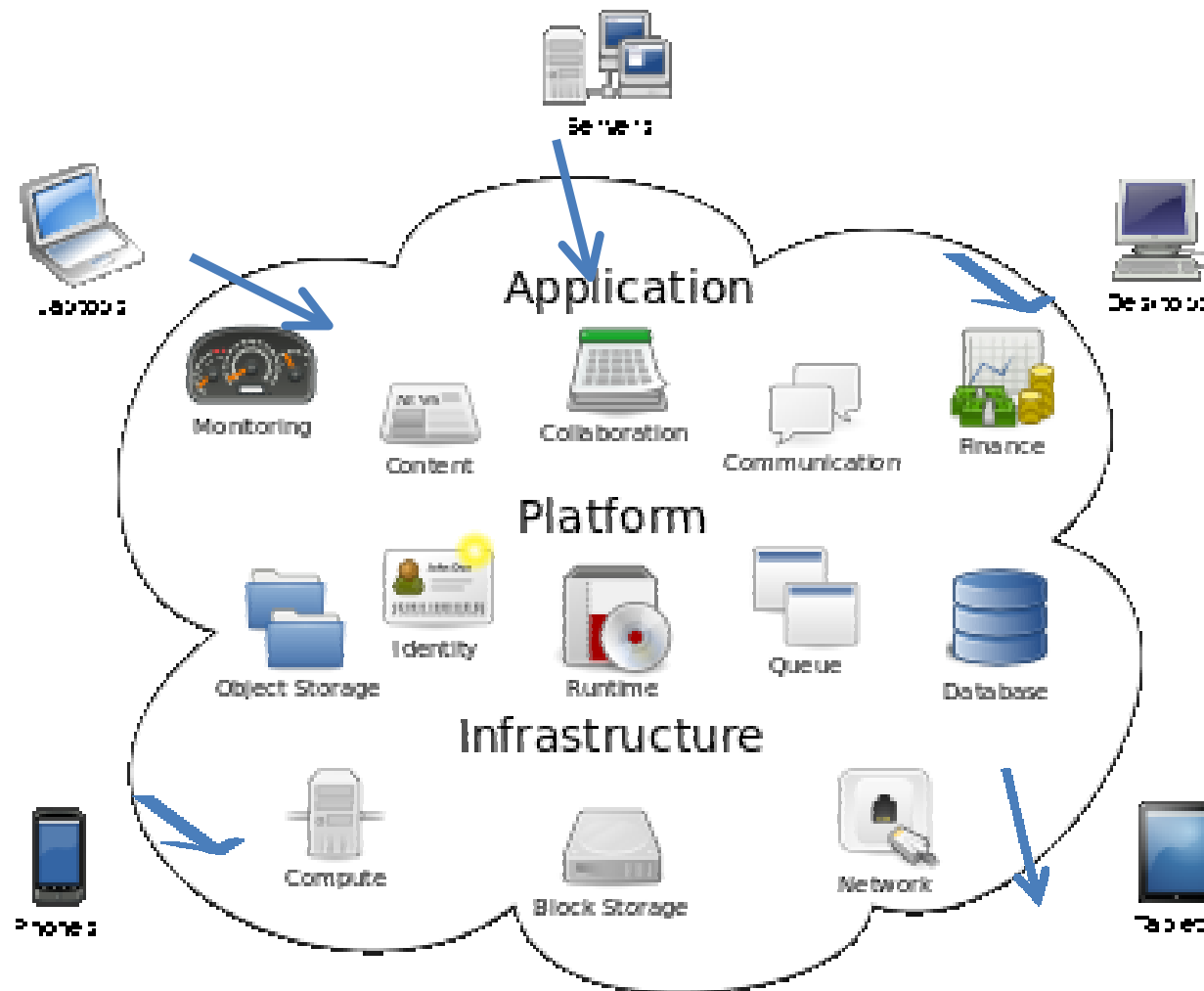
Cloud Computing

- **The present availability of high-capacity networks, low-cost computers and storage devices as well as the widespread adoption of hardware virtualization, service-oriented architecture, and autonomic and utility computing have led to a growth in cloud computing.**
- **Cloud vendors are experiencing growth rates of 50% per annum.**

**You**

Infrastructure
provider

Service provider

Service
client
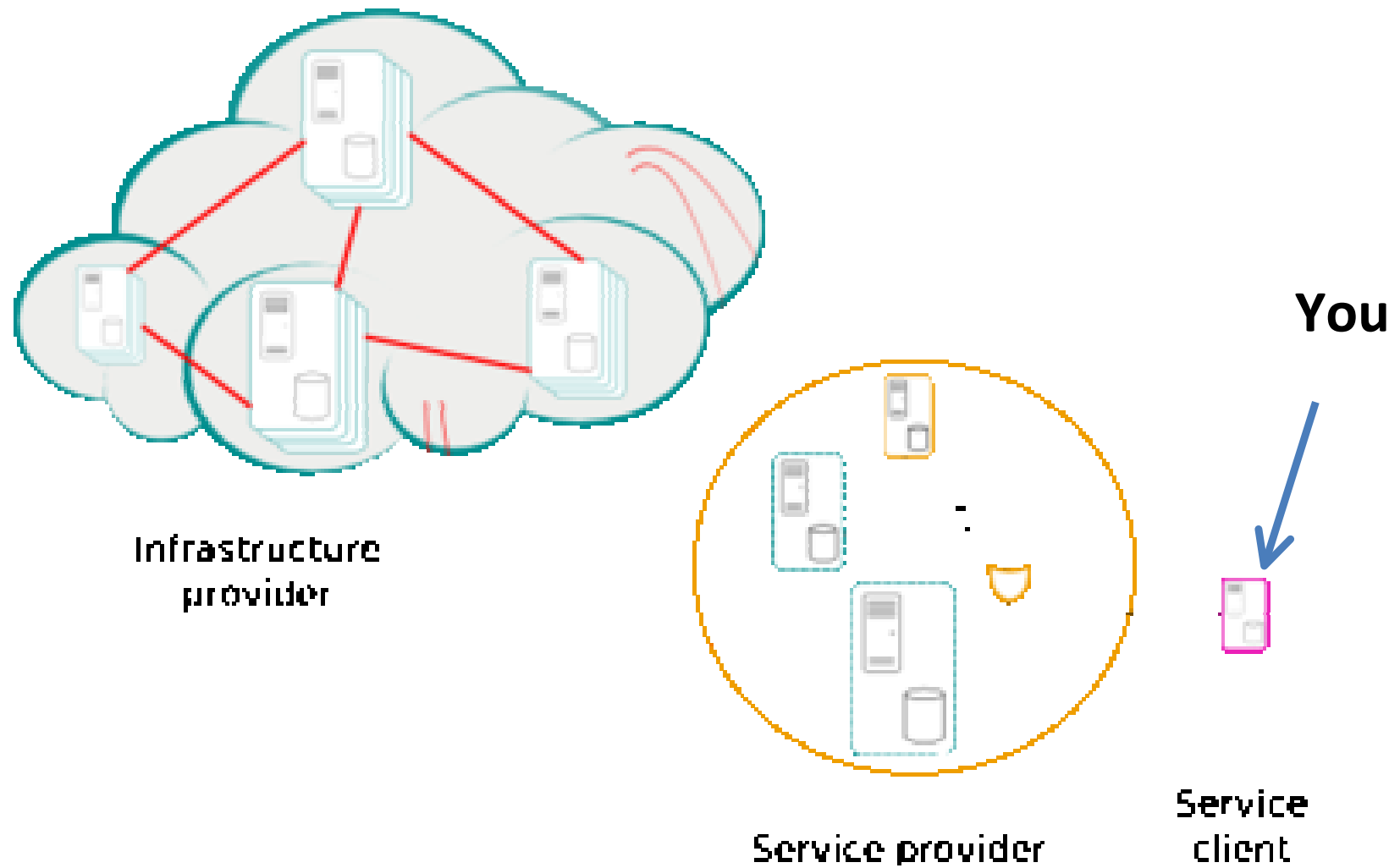
- **Example: Microsoft now wants to sell** *annual license for their Office Suite vs. selling a* **license that is good for years. You would go to PowerPoint in the cloud vs your computer.**

- **Big Brother Gates could read what you are doing**

# Now You Can Understand the Cloud

- "So you've made the decision to leverage the efficiencies of cloud infrastructure but you are still concerned about the restrictions of vendor lock-in on your IT investments.

- Your solution is easy, you want a heterogeneous, extensible architecture, for use across a hybrid IT environment. In addition you want the ability to identify and reclaim your underutilized resources, plan for future expansion, and identify performance bottlenecks in your cloud environment today.

- HP's Cloud Service Automation solution has these capabilities along with giving you the option to optimize your cloud environment, and be in control with your cloud infrastructure costs with HP Virtualization Performance Viewer."

- Understand? Ready to sign up?

# Big Brother, Computers and Privacy

- An example:
- The onboard automobile recording and cell transmission device.
- 5% off my premium, if I place a tracking device in my car. Ostensibly it is a study in breaking performance. But with its GPS, it tells the company; if I habitually exceed the speed limit.
- Open question: In the event of an accident; if I were speeding would this be considered negligence vs. just the bad luck of timing of an a random accident?
- Hmm?

# An Evolving Use of Systems and Products

- **In November 2014, IBM and Twitter announced a global landmark partnership they claim will change how institutions and businesses understand their customers, markets and trends.**

- **With Twitter's data on people and IBM's cloud-based analytics and customer engagement platforms they plan to help enterprises make better, more informed decisions. Huh!**

- **The partnership will give enterprises and institutions a way to make sense of Twitter's mountain of data using IBM's Watson supercomputer.**

- <span style="color:red">**Is this a match in search of a use?**</span>

# Web 2.0

- **Web 2.0 describes WorldWideWeb sites that emphasize user-generated content, usability, and interoperability.**
- **The term was popularized by Tim O'Reilly and Dale Dougherty at the O'Reilly Media Web 2.0 Conference in late 2004, though it was first coined by Darcy DiNucci in 1999.**
- **Although Web 2.0 suggests a new version of the WorldWideWeb, it <span style="color:red">does not refer to an update</span> to any technical specification, but rather to cumulative changes in the way Web pages are made and used.**
- **A Web 2.0 site may allow users to interact and <span style="color:red">collaborate with each other in a social media dialogue</span> as creators of user-generated content in a virtual community, in contrast to Web sites where people are limited to the passive viewing of content.**
  - Examples of Web 2.0 include social networking sites, blogs, wikis, folksonomies, video sharing sites, hosted services, Web applications, and mashups[?}.

# Web 2.0

- **Whether Web 2.0 is substantively different from prior Web technologies has been challenged by WorldWideWeb inventor Sir Tim Berners-Lee, who describes the term as jargon.**

- **His original vision of the Web was "a collaborative medium, a place where we [could] all meet and read and write."**

- **On the other hand, the term Semantic Web (sometimes also referred to as Web 3.0) was coined by Berners-Lee for a web of data that can be processed by machines.**

amazon.com

- **Amazon.com is an American based multinational electronic commerce company.**

- **Headquartered in Seattle, Washington, it is America's largest online retailer, with nearly three times the internet sales revenue of runner up Staples**

- **Jeff Bezos founded Amazon.com, Inc. in 1994 and launched it online in 1995.**

- **It started as an on-line bookstore but soon diversified to product lines of VHS, DVD, music CDs and MP3s, computer software, video games, electronics, apparel, furniture, food, toys, etc.**

- **Amazon has established separate websites in Canada, the United Kingdom, Germany, France, China, and Japan. It also provides international shipping to certain countries for some of its products.**

# Amazon's Green Swedish Center $CO_2$ Negative System

- **Located in Fallun Sweden near the Arctic Circle the center is mostly under ground with a sod roof.**

- **It is powered by a nearby hydro-electric dam.**

- **In fall, winter and spring, vents open to the outside to pull in cold air to cool the servers. In warmer times heat is sent to geothermal sinks.**

- **The site is linked via fiber-optic cable to metro Stockholm and then to the rest of Europe.**

# New Credit Cards Features

- **Chip & signature technology adds an extra layer of security to your Card transactions.**

- **The chip stores the same information as the magnetic stripe, which you usually see on your credit or debit cards.**

- **But you need a PIN, then chip & signature technology encrypts your transaction data, which makes it more difficult for unauthorized users to copy or access your Card information.**

- **So they say!**

# So you went to Web Site, Who Knows?

- Well….
- Ad-targeting experiments by Verizon and AT&T are striking examples of the data-mining opportunities open to phone carriers now that they have become the nexus of the information universe, providing a connection to the Internet for people anywhere they go, at any time.
- Verizon's marketing efforts are part of **a high-frequency digital ad trading system** called real-time bidding, in which many kinds of players track and analyze users' online activities to identify the characteristics of those who would be most receptive to certain ads.
- A Verizon service called **Relevant Mobile Advertising**, for instance, combines details obtained from information resellers like **Acxiom** and **Experian** with the wireless carrier's own data to classify its mobile subscribers by gender, income, interests or other criteria.
- Verizon through "Super Cookies" does not allows its subscribers to opt out of receiving ads customized through this program.