

Finding Meaning in the Internet...

...How can you tell Gold from Lead over TCP/IP?

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Common Knowledge

- We all “*know*” the Internet is
- An information rich resource with great value, available for a modest minimal investment.
 - This type of knowledge, things we just accept as *true*, is what the noted American Economist, and thinker, John Kenneth Galbraith referred to as “common knowledge.”
 - “Common Knowledge” has no cultural, religious, economic, social or geographic boundaries.
 - It exists in all systems and is a fundamental aspect of the human species.

Common Knowledge

- *Common Knowledge* has been a part of the human experience since we emergence of conscious thought.
 - With early man common knowledge was learned over extremely long periods:
 - Which plants could be eaten,
 - Which caused death, which cured, etc.
 - Rhubarb stems vs. leaves
 - Acorns

Common Knowledge

- Man was directly connected to the land, water and sky.
 - Little, if anything, changed over the course of many generations.
 - Errors in common knowledge were (hopefully) quickly discovered, often by death.
 - The revised knowledge was spread and life continued.

Common Knowledge

- Somewhere between the cave and the multi-story centrally heated apartment blocks we live in today things changed.
- But, have we changed the blind faith with which we accept most of what we are told about our world.
- Most people never actually stop to ask:
 - How do we know that?
 - Is it actually true?
 - What would be the impact if this were not true?



Common Knowledge

- Let's first reexamine the previous statement
 - “We all “*know*” that the Internet is an information rich resource with great value to be available for a modest minimal capital investment”
- Now, ask
 - How do we know that?
 - Is it actually true?
 - What would be the impact if this were not true?

Common Knowledge

- How do we know this.
 - Probably because we have heard it repeated everywhere we look
 - On the sides of trams and buses
 - Painted on buildings
 - ,On the radio, TV and in the newspapers daily.
 - We want to believe this is true
 - We enjoy our use of the net
 - Most of your jobs depend on it
 - We spend our incomes, and our lives on the net
 - If this was not true, then are we, stupid?

Common Knowledge

- But, is all this really true.?
 - Is the information actually useful?
 - Is it even true, factual?
 - Is it complete?
 - Why does it exist?
 - Who wrote it?
 - And more importantly, why did they write it?
 - For money,
 - To change our minds,
 - To change the world,
 - To attract attention to themselves, .
 - There are a myriad of reasons – most of them beyond our knowing.



What is the Internet?

- The Internet is not just technology
 - it represents a huge opportunity for financial gain.
 - Ironically, in spite of the extensive promotion of “content” very little money is being made today from content that is delivered on the net.
 - Most of today’s Internet economy is made from selling access to the net.
 - Most of E-Commerce “content” is actually delivered by Federal Express or the Post Office.
 - The net only delivers the order form.



What is the Internet?

- The Internet is not just technology
 - But, access is a huge business.
 - Cisco, Nortel, 3COM and Lucent and been built on access.
 - ISPs and service providers major expense is access.
 - Content is just a means of attracting us and keeping us connected, and paying.
 - And, as long as we feel we are getting a reasonable value for our money and effort, we will keep on buying.

What is *Content*?

- What is this “vast resource of knowledge?”
- When we examine the information sources available on the Internet, what do we find?
 - Most people only use world-wide web
 - Is the “web” == “The Internet”

What is *Content*?

- Advertising
 - Banner Ads
 - Catalogs
 - Travel information
 - Vacation rentals, etc.
 -
- Interest pages
 - Outcomes of a completely anarchistic publishing system in which anyone can publish anything, and does.
 - "Richard's Balkan Cooking page"
 - My summer in the Alps, etc

What is *Content*?

- Erotic Material
 - Commonly, but incorrectly called pornography
- Weather
- Commercial, subscription information sources (for fee)

What is *Content*?

- News and Current information
 - Very popular in a world in which events are increasingly global in nature.
 - Events in New York and Washington touched people all over the world.
 - They knew people in the area
 - They had been there
 - They are Moslem
 - They know people in Afghanistan, Iraq, etc., etc.

What is *Content*?

- Is anybody judging the quality of the information and the presentation of this content?

What is *Content*?

- There is a good side to this publishing revolution
 - Even unpopular ideas can now be made available to a broad audience
 - But, there is a lot of junk too.
 - Dead Links
 - Wrong information (by error or ignorance)
 - A special niche for esoteric publishing:
 - Family web sites
 - Baby and wedding pictures
 - This is probably a good development.
 - » We are no longer required to sit through long boring presentations of “slides from my trip to Greece.”

What is *Content*?

- And, there is intentional misinformation
 - A recent count found more web sites denying the WWII holocaust that documenting it.
 - But, what is the *truth* anyway?
- What skills are needed to separate the wheat from the chaff of the Internet?
 - How will we ever discriminate?

What is *Content*?

- So, it seems that ...
 - ... in some cases
 - ... to some people
- Internet content may have value
 - Perhaps shallow
 - Likely in English
- But there probably is something useful out there in terms of *Content*.



...and if there is no content?

- Now let's ask...
 - ... what if this were not true?
 - ... what if the net was not a rich source of accurate, timely, easy to use information?
- Would it still be useful for us?

...and if there is no content?

- I propose that the answer to that question is clearly, yes.
 - Look at:
 - E-Mail
 - Chat rooms
 - Instant Messaging (Including GSM SMS)

...and if there is no content?

- The net has tremendous value even if all the information that it contains, distributes and catalogs is useless.
 - It still an attraction!
 - What is it that we find so seductive and attractive?

...and if there is no content?

- One of the main purposes of the original Internet ...
(more accurately the network technologies that became the Internet)
- ... was to enable collaboration and research among Universities and government

...and if there is no content?

- Among the early user services protocols were:
 - telnet
 - Command line access to remote systems
 - ftp
 - Remote file access – store and retrieve
 - Sntp
 - E-mail
 - Had previously existed on UNIX and other limited scope networks, and
 - USENET/NetNews
 - borrowed from UNIX.

...and if there is no content?

- These basic services provided the core functions which we still use today:
 - Retrieval of files (data)
 - Interactive sessions
 - Which in turn enabled real-time messaging, or chat
 - Person-to-person messaging
 - Group messaging/conferencing

...and if there is no content?

- The creation of the web (more on this later)
 - Made it easier for most people to access these functions.
 - A single program to “display” everything...
 - Text
 - Graphics
 - Sound
 - Forms
 - Etc.

...and if there is no content?

- The creation of the web
 - A programmable graphic interface
 - Access remote data and display
 - A simple mouse click.
 - Browsers soon developed e-mail extensions (IE and Netscape)
 - And, web servers developed e-mail functions (Hotmail, Yahoo, etc.)



...and if there is no content?

- The basic technologies combined with the ease-of-use of the web allowed two things:
 - Access to content
 - Access to people.



...and if there is no content?

- The conclusion:
- Even if the content is worthless ...
 - The connection between people has value beyond calculation.
 - The connection between people builds communities.



Communities on the Net

- Until the invention on the Internet, community almost invariably was local.
- Some small groups, with extensive resources, or time were able to build communities by mail, phone or travel.
 - Highly specialized communities
 - Not available to the vast majority of the world.
- Probably the most commonly available means of community creation and maintenance were conferences: like this one.



Communities on the Net

- Conferences allow for
 - A periodic infusion of energy (in person meetings)
 - Followed by broadcast information (newsletters)
 - And, very bandwidth communications by post.
- But, conferences are expensive and require a critical mass of people to succeed.
 - That may be easy in major research fields and hot commercial technology,
 - It becomes much more difficult as the size of the interested community drops.



Communities on the Net

- The Internet has created the potential to revolutionized the process of community building.
 - Groups of people with obscure interests or needs can build person-to-person information sharing networks with groups as small as two people.

Communities on the Net

- Areas of medicine and rare diseases, and political action.
- It is now apparent that a very small number of people were able to plan and execute a complex plan that has completely disrupted the world.
 - The probable communication means: e-mail.
 - » Use of e-mail in France in the early 70's on minitel to organize mass demonstrations and topple the government.



Communities on the Net

- The attraction of community has made seniors the largest growth area on the Internet in the US.
- People who in the past may have been isolated by advancing years, loss in income, etc. are now be connected.



Communities on the Net

- It is commonly accepted that most people need to communicate with other people to survive (at least to maintain a healthy survival.)
 - As Barbara Streisand sang, “People need People”
- How many of you...
 - Call or e-mail a friend when you find something of interest on the web.
 - Or forward an interesting e-mail message, possibly just a funny joke.



Communities on the Net

- It is this ad-hoc human networking capability that I believe is the critical element of the Internet and it's continued success and growth.
- Even as the *dot com* economy of the late 20th century collapsed, the net itself continues to grow at a rapid pace.



Communities on the Net

- At its core
 - The Internet is a tool for connection and collaboration
 - Rather than simply a static storehouse and electronic replacement for the library



Communities on the Net

- Consider an analogous thought.
- It is often said that in life the journey is ultimately everything and the goals just waypoints that mark our progress.
 - Information is the goal
 - The connection is the journey

The Potential

- Before we continue, let's take another look at the technology.
- True, today the basic tools of the net are roughly easy-to-use equivalents to the first services which were developed for network use.
- But, is that all there is, and all there will be?

The Potential

- Marshall McLuhan wrote:
 - “It is the Medium not the Message” that is important
 - the initial content of any new media is invariably the old.

The Potential

- As the first content of radio was simply people reading the print and stage media that preceded it.
- It took a while before the unique capabilities of radio emerged: Radio plays with sound effects,
- Interactive content when combined with the phone, etc.
- The initial content of TV was radio
- The initial content of color television simply black-and-white, with color added
 - It took years before there were broadcasts that could only work on a color TV.

The Potential

- Now, let's take another look at the world-wide web
 - developed not so far from here at CERN in Geneva.
 - The initial reason for the development of the web was to solve problems in the distribution and access to online documentation.
 - The web was designed to allow the advantages of hypertext over a network
 - HTTP = hyper text transport protocol

The Potential

- Using http, documentation kept on separate systems could be linked to provide easy cross-references.
- This ability in itself did not really capture the public imagination.
 - It took the development of the first “multi-media” browser, Mosaic, to do that.
- And in the time since Mosaic and it’s offspring: Windows IE and Netscape, not much has changed.
 - Most web pages still use hyper-links as a simple form of index to enable page turning on an online media.

The Potential

- But, we should ask,
What could this be?
or better,,,
What will you, in this room, make this into?
- Tim O'Reilly, of O'Reilly publishing has
observed
 - In the age of hyper-text, a non-fiction work is now
merely the index to a body of knowledge rather
than the knowledge itself.

The Potential

- In the age of hyper-text, a non-fiction work is now merely the index to a body of knowledge rather than the knowledge itself.
 - Consider the importance, and significance, of that statement.
 - Non-fiction work, facts, data, information, is now not only important for what it say, but for what it can be connected to.
 - And, that connection does not have to be direct and linear.
 - It can be indirect, through another menu, via a graph, etc.

The Potential

- So, is the true value of data going to be the index that goes behind it?
 - Consider a radical economic model in which users pay for links rather than data.
 - What are the implications for such a concept on your own work?

The Potential

- Hyper-media allows us for a second time in the history of man to move from linear to non-linear media.
 - The first is the story-teller who alters the story to fit the demands of the audience.

The Potential

- Content can now branch on
 - Language
 - Time
 - Location
- To text, sounds, images, chats, stored messages, etc.
- All as part of the same “content.”
- This is like being to able rearrange the chairs and tables in a room on demand and instantly to reflect the changing requirements of the interaction that is taking place within it.
 - Lecture, discussion, small groups, etc.

The Potential

- Again, stop and reflect on your own work, and the work of others that you have seen and used.
 - How much has your own concept of “content” teaching and the Internet caused you to stay within unseen, and non-existent, boundaries.
 - Have you told yourself:
 - “But, that takes computer technology I don’t understand?”

The Potential

- That is why we are talking about collaboration:
 - There are some people in this room that are gifted and natural teachers,
 - Who can dream about the perfect online learning experience.
 - But, who can't write a line of hyper-text,

The Potential

- That is why we are talking about collaboration:
 - And there are many in this room who are natural programmers,
 - Expert arrangers of data ideas and constructs.
 - Who could build the most complex software systems ever conceived,
 - If someone would just conceive of them.
 - But, who couldn't teach someone to light a match



The Potential

- Collaborate with your neighbor.
 - Wherever he or she may be
- Build collaborative communities with collaborative unions of creativity.



Will it Make a Difference?

- Can we actually change the evolution of the human being and the human spirit.
- The Internet, like Television, has a great promise, will that promise be delivered?
 - You and I are the people who will decide if this will be a tool of “Love and Peace” or one of “Hate and War”