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# InfoEnclosure 2.0

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The hype surrounding Web 2.0's ability to democratise content production obscures its centralisation of ownership and the means of sharing. Dmytri Kleiner & Brian Wyrick expose Web 2.0 as a venture capitalist's paradise where investors pocket the value produced by unpaid users, ride on the technical innovations of the free software movement and kill off the decentralising potential of peer-to-peer production

Wikipedia says that 'Web 2.0, a phrase coined by O'Reilly Media in 2004, refers to a supposed second generation of internet-based services – such as social networking sites, wikis, communication tools, and folksonomies – that emphasise online collaboration and sharing among users.'

The use of the word 'supposed' is noteworthy. As probably the largest collaboratively authored work in history, and one of the current darlings of the internet community, Wikipedia ought to know. Unlike most of the members of the Web 2.0 generation, Wikipedia is controlled by a non-profit foundation, earns income only by donation and releases its content under the copyleft GNU Free Documentation License. It is telling that Wikipedia goes on to say '[Web 2.0] has become a popular (though ill-defined and often criticised) buzzword among certain technical and marketing communities.'

The free software community has tended to be suspicious, if not outright dismissive, of the Web 2.0 moniker. Tim Berners-Lee dismissed the term saying 'Web 2.0 is of course a piece of jargon, nobody even knows what it means.' He goes on to note that 'it means using the standards which have been produced by all these people working on Web 1.0.'

In reality there is neither a Web 1.0 nor a Web 2.0, there is an ongoing development of online applications that cannot be cleanly divided.

In trying to define what Web 2.0 is, it is safe to say that most of the important developments have been aimed at enabling the community to create, modify, and share content in a way that was previously only available to centralised organisations which bought expensive software packages, paid staff to handle the technical aspects of the site, and paid staff to create content which generally was published only on that organisation's site.

A Web 2.0 company fundamentally changes the mode of production of internet content. Web applications and services have become cheaper and easier to implement, and by allowing the end users access to these applications, a company can effectively outsource the creation and the organisation of their content to the end users themselves. Instead of the traditional model of a content provider publishing their own content and the end user consuming it, the new model allows the company's site to act as the centralised portal between the users who are both creators and consumers.

For the user, access to these applications empowers them to create and publish content that previously would have required them to purchase desktop software and possess a greater technological skill set. For example, two of the primary means of text-based content production in Web 2.0 are blogs and wikis which allow the user to create and publish content directly from their browser without any real need for knowledge of markup language, file transfer or syndication protocols, and all without the need to purchase any software.

The use of the web application to replace desktop software is even more significant for the user when it comes to content that is not merely textual. Not only can web pages be created and edited in the browser without purchasing html editing software, photographs can be uploaded and manipulated online through the browser without the need for expensive desktop image manipulation applications. A video shot on a consumer camcorder can be submitted to a video hosting site, uploaded, encoded, embedded into an HTML page, published, tagged, and syndicated across the web all through the user's browser.

In Paul Graham's article on Web 2.0 he breaks down the different roles of the community/user into more specific roles, those being the Professional, the Amateur, and the User (more specifically, the end user). The roles of the Professional and the User were, according to Graham, well understood in Web 1.0, but the Amateur didn't have a very well defined place. As Graham describes it in 'What Business Can Learn From Open Source', the Amateur just loves to work, with no concern for compensation or ownership of that work; in development, the Amateur contributes to open source software whereas the Professional gets paid for their proprietary work.

Graham's characterisation of the 'Amateur' reminds one of *If I Ran The Circus* by Dr. Suess, where young Morris McGurk says of the staff of his imaginary Circus McGurkus:

My workers *love* work. They say, 'Work us! Please work us!  
We'll work and we'll work up so many surprises  
You'd never see half if you had forty eyeses!'

And while 'Web 2.0' may mean nothing to Tim Berners-Lee, who sees recent innovations as no more than the continued development of the web, to venture capitalists, who like Morris McGurk daydream of tireless workers producing endless content and not demanding a pay cheque for it, it sounds stupendous. And indeed, from YouTube to Flickr to Wikipedia, you'd truly never see half if you had forty eyeses.

Tim Berners-Lee is correct. There is nothing from a technical or user point of view in Web 2.0 which does not have its roots in, and is not a natural development from, Web 1.0. The technology associated with the Web 2.0 banner was possible and in some cases readily available before, but the hype surrounding this usage has certainly affected the growth of Web 2.0 internet sites.

The internet (which is more than the web, actually) has always been about sharing between users. In fact, Usenet, a distributed messaging system, has been operating since 1979! Since long before even Web 1.0, Usenet has been hosting discussions, 'amateur' journalism, and enabling photo and file sharing. Like the internet, it is a distributed system not owned or controlled by anyone. It is this quality, a lack of central ownership and control, that differentiate services such as Usenet from Web 2.0.

If Web 2.0 means anything at all, its meaning lies in the rationale of venture capital. Web 2.0 represents the return of investment in internet startups. After the dotcom bust (the real end of Web 1.0) those wooing investment dollars needed a new rationale for investing in online ventures. 'Build it and they will come', the dominant attitude of the '90s dotcom boom, along with the delusional 'new economy', was no longer attractive after so many online ventures failed. Building infrastructure and financing real capitalisation was no longer what investors were looking for. Capturing value created by others, however, proved to be a more attractive proposition.

Web 2.0 is Internet Investment Boom 2.0. Web 2.0 is a business model, it means private capture of community-created value. No one denies that the technology of sites like YouTube, for instance, is trivial. This is more than evidenced by the large number of identical services such as DailyMotion. The real value of YouTube is not created by the developers of the site, but rather it is created by the people who upload videos to the site. Yet, when YouTube was bought for over a billion dollars worth of Google stock, how much of this stock was acquired by those that made all these videos? Zero. Zilch. Nada. Great deal if you are an owner of a Web 2.0 company.

The value produced by users of Web 2.0 services such as YouTube is captured by capitalist investors. In some cases, the actual content they contribute winds up the property of site owners. Private appropriation of community created value is a betrayal of the promise of sharing technology and free cooperation.

Unlike Web 1.0, where investors often financed expensive capital acquisition, software development and content creation, a Web 2.0 investor mainly needs to finance hype-generation, marketing and buzz. The infrastructure is widely available for cheap, the content is free and cost of the software, at least that much of it that is not also free, is negligible. Basically, by providing some bandwidth and disk space, you are able to become a successful internet site if you can market yourself effectively.

The principal success of a Web 2.0 company comes from its relationship to the community, more specifically, the ability of the company to 'harness collective intelligence', as O'Reilly puts it. Web 1.0 companies were too monolithic and unilateral in their approach to content. Success stories of the transition from Web 1.0 to Web 2.0 were based on the ability for a company to remain monolithic in its brand of content, or better yet, its outright ownership of that content, while opening up the method of that content's creation to the community. Yahoo! Created a portal to community content while it remained the centralised location to find that content. EBay allows the community to sell its goods while owning the marketplace for those goods. Amazon, selling the same products as many other sites, succeeded by allowing the community to participate in the 'flow' around their products.

Because the capitalists who invest in Web 2.0 startups do not often fund early capitalisation, their behaviour is markedly more parasitic as well. They often arrive late in the game when value creation already has good momentum, swoop in to take ownership and use their financial power to promote the service, often within the context of a hegemonic network of major, well financed partners. This means that companies that are not acquired by venture capital end up cash starved and squeezed out of the club.

In all these cases, the value of the internet site is created not by the paid staff of the company that runs it, but by the users who use it. With all of the emphasis on community created content and sharing, it's easy to overlook the other side of the Web 2.0 experience: ownership of all this content and ability to monetise its value. To the user, this doesn't come up that often, it's only part of the fine print in their MySpace Terms of Service agreement, or it's the Flickr.com in the url of their photos. It doesn't usually seem like an issue to the community, it's a small price to pay for the use of these wonderful applications and for the impressive effect on search engine results when one queries one's own name. Since most users do not have access to alternative means to produce and publish their own content, they are attracted to sites like MySpace and Flickr.

Meanwhile, the corporate world was pushing a whole different idea of the Information Superhighway, producing monolithic, centralised 'online services' like CompuServe, Prodigy and AOL. What separated these from the internet is that these were centralised systems that all users connect directly to, while the internet is a peer-to-peer network, every device with a public internet address can communicate directly to any other device. This is what makes peer-to-peer technology possible, this is

also what makes independent internet service providers possible.

It should be added that many open source projects can be cited as the key innovations in the development of Web 2.0: free software like Linux, Apache, PHP, MySQL, Python, etc. are the backbone of Web 2.0, and the web itself. But there is a fundamental flaw with all of these projects in terms of what O'Reilly refers to as the Core Competencies of Web 2.0 Companies, namely control over unique, hard-to-recreate data sources that get richer as more people use them – the harnessing of the collective intelligence they attract. Allowing the community to contribute openly and to utilise that contribution within the context of a proprietary system where the proprietor owns the content is a characteristic of a successful Web 2.0 company. Allowing the community to own what it creates, though, is not. Thus, to be successful and create profits for investors, a Web 2.0 company needs to create mechanisms for sharing and collaboration that are centrally controlled. The lack of central control possessed by Usenet and other peer controlled technologies is the fundamental flaw. They only benefit their users, they do not benefit absentee investors, as they are not 'owned'.

Thus, because Web 2.0 is funded by Capitalism 2006, Usenet is mostly forgotten. While everybody uses Digg and Flickr, and YouTube is worth a billion dollars, PeerCast, an innovative peer-to-peer live video streaming network that has been in existence for several years longer than YouTube, is virtually unknown.

From a technological stand point, distributed and peer-to-peer (P2P) technologies are far more efficient than Web 2.0 systems. Making better use of network resources by using the computers and network connections of users, P2P avoids creating bottlenecks created by centralised systems and allows content to be published with less infrastructure, often no more than a computer and a consumer internet connection. P2P systems do not require the massive data centres of sites such as YouTube. The lack of central infrastructure also comes with a lack of central control, meaning that censorship, often a problem with privately-owned 'communities' that frequently bend to private and public pressure groups and enforce limitations on the the kinds of content they allow. Also, the lack of large central cross-referencing databases of user information has a strong advantage in terms of privacy.

From this perspective, it can be said that Web 2.0 is capitalism's preemptive attack against P2P systems. Despite their many disadvantages in comparison to these, Web 2.0 is more attractive to investors, and thus has more money to fund and promote centralised solutions. The end result of this is that capitalist investment flowed into centralised solutions making them easy and cheap or free for non-technical information producers to adopt. Thus, this ease of access compared to the more technically challenging and expensive undertaking of owning your own means of information production created a 'landless' information proletariat ready to provide alienated content-creating labour for the the new info-landlords of Web 2.0.

It is often said that the internet took the corporate world by surprise, coming as it did out of publicly funded university and military research. It was promoted by way of a cottage industry of small independent internet service providers who were able to squeeze a buck out of providing access to the state-built and financed network.

The internet seemed anathema to the capitalist imagination. Web 1.0, the original dotcom boom, was characterised by a rush to own the infrastructure, to consolidate the independent internet service providers. While money was thrown around quite randomly as investors struggled to understand what this medium would actually be used for, the overall mission was largely successful. If you had an internet account in 1996 it was likely provided by some small local company. Ten years later, while some of the smaller companies have survived most people get their internet access from gigantic telecommunications corporations. The mission of Internet Investment Boom 1.0 was to destroy the

independent service provider and put large, well financed, corporations back in the driving seat.

The mission of Web 2.0 is to destroy the P2P aspect of the internet. To make you, your computer, and your internet connection dependent on connecting to a centralised service that controls your ability to communicate. Web 2.0 is the ruin of free, peer-to-peer systems and the return of monolithic 'online services'. A telling detail here is that most home or office internet connections in the '90s, modem and ISDN connections, were synchronous – equal in their ability to send and receive data. By design, your connection enabled you to be equally a producer and a consumer of information. On the other hand, modern DSL and cable-modem connections are asynchronous, allowing you to download information quickly, but upload slowly. Not to mention the fact that many user agreements for internet service forbid you to run servers on your consumer circuit, and may cut off your service if you do.

Capitalism, rooted in the idea of earning income by way of idle share ownership, requires centralised control, without which peer producers have no reason to share their income with outside shareholders. Capitalism, therefore, is incompatible with free P2P networks, and thus, so long as the financing of internet development comes from private shareholders looking to capture value by owning internet resources, the network will only become more restricted and centralised.

It should be noted that even in the case of commons-based peer production, so long as the commons and membership in the peer group is limited, and inputs such as food for the producers and the computers that they use are acquired from outside the commons-based peer group, then the peer producers themselves may be complicit in the exploitative capturing of this labour value. Thus in order to really address the unjust capture of alienated labour value, access to the commons and membership in the peer group must be extended as far as possible toward the inclusion of a total system of goods and services. Only when all productive goods are available from commons-based producers can all producers retain the value of the product of their labour.

And while the information commons may have the possibility of playing a role in moving society toward more inclusive modes of production, any real hope for a genuine, community enriching, next generation of internet-based services is not rooted in creating privately owned, centralised resources, but rather in creating cooperative, P2P and commons-based systems, owned by everybody and nobody. Although small and obscure by today's standards, with its focus on peer-to-peer applications such as Usenet and email, the early internet was very much a common, shared resource. Along with the commercialisation of the internet and the emergence of capitalist financing comes the enclosure of this information commons, translating public wealth into private profit. Thus Web 2.0 is not to be thought of as a second-generation of either the technical or social development of the internet, but rather as the second wave of capitalist enclosure of the Information Commons.

Virtually all of the most used internet resources could be replaced by P2P alternatives. Google could be replaced by a P2P search system, where every browser and every webserver were active nodes in the search process; Flickr and YouTube could also be replaced by PeerCast and eDonkey type applications, which allow users to use their own computers and internet connections to collaboratively share their pictures and videos. However, developing internet resources requires the application of wealth, and so long as the source of this wealth is finance capital, the great peer-to-peer potential of the internet will remain unrealised.

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