What put the '2' in Web 2.0?
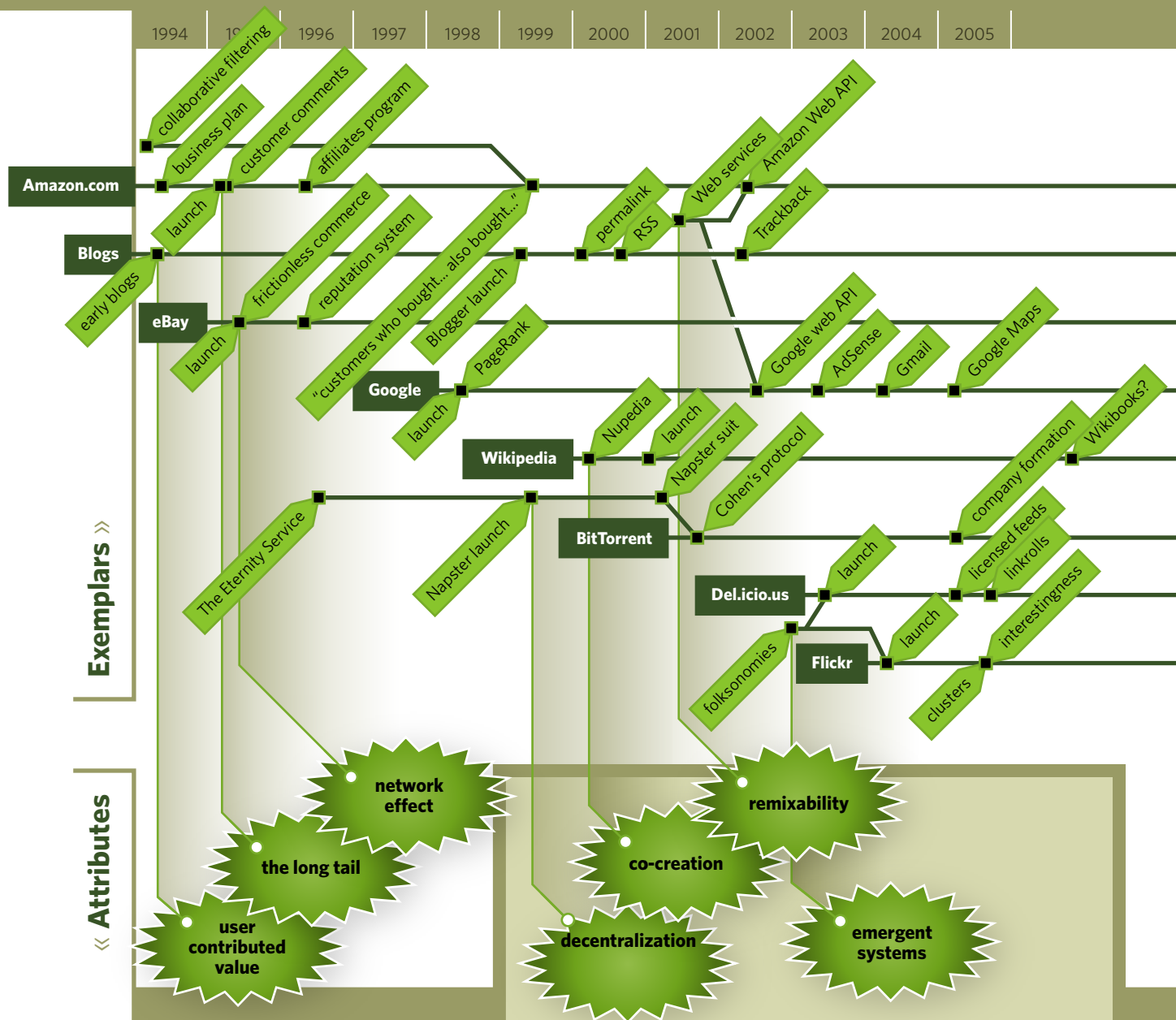
As Tim O'Reilly's Meme Map shows, Web 2.0 services share many attributes. But which competitive advantage and prompt fast growth? By tracking the services that embrace Web 2.0, we can identify attributes that have made a difference.

The *Foundation Attributes* that enable the economics of Web 2.0, such as the network effect and the Long Tail, pre-date other attributes by several years. They exist in many non-Web 2.0 services. *Experience Attributes* have surfaced much more recently, and these give Web 2.0 services a strongly differentiating competitive advantage: relevant, human, and surprising user experiences.

Timeline 1994–2005

Exemplars

- Amazon.com — collaborative filtering, business plan, customer comments, affiliates program, launch, "customers who bought... also bought...", Web services, Amazon Web API, Trackback
- Blogs — early blogs, frictionless commerce, reputation system, permalink, RSS
- eBay — launch
- Google — Blogger launch, PageRank, launch, Google web API, AdSense, Gmail, Google Maps
- Wikipedia — Nupedia, launch
- BitTorrent — Napster suit, Cohen's protocol, launch
- Del.icio.us — launch, company formation, licensed feeds, linkrolls, Wikibooks?
- Flickr — folksonomies, launch, clusters, interestingness
- The Eternity Service
- Napster launch

Attributes

- network effect
- the long tail
- user contributed value
- remixability
- co-creation
- decentralization
- emergent systems

Foundation Attributes

These attributes frame the economic model of Web 2.0 services. They allow services to scale efficiently to accomodate many customers. However, many non-Web 2.0 services also benefit from this same foundation (e.g., email and bulletin boards). Therefore there must be more that differentiates Web 2.0 from what came before.

Experience Attributes

These attributes create unique service experiences that were undeliverable before Web 2.0. Users can tailor services and systems to create new, relevant experiences that meet their needs on their terms. The value generated by these new experiential attributes fuels the economic models created by Foundation Attributes. If a service doesn't embrace one or more of these attributes, it can't enjoy the competitive advantage and fast growth that Web 2.0 makes possible.

About the attributes

Sources

The timeline of exemplars is meant to emphasize relative order of events. The following sources were used to construct the timeline.

AMAZON

Christine Frey and John Cook. "How Amazon.com survived, thrived and turned a profit" *Seattle Post-Intelligencer Reporters.* January 28, 2004. <http://tinyurl.com/dx6j8>

"Join Associates" *Amazon.com.* <http://tinyurl.com/cogqx>. Accessed on October 10, 2005.

BLOGS

"Blog" *Wikipedia.* <http://en.wikipedia.org/wiki/Blog>. Accessed on October 10, 2005.

Rebecca Blood. "Weblogs: a history and perspective" *Rebecca's Pocket.* <http://tinyurl.com/335xu>

Tom Coates. "On Permalinks and Paradigms..." *Plasticbag.org* June 11, 2003. <http://tinyurl.com/2ubls>

"RSS (file format)" *Wikipedia.* <http://tinyurl.com/6jfu9> Accessed on October 15, 2005.

COLLABORATIVE FILTERING

"GroupLens: an open architecture for collaborative filtering of netnews" *Computer Supported Cooperative Work;*

Proceedings of the 1994 ACM conference on Computer supported cooperative work. ACM Press. 1994. p . 175 - 186 <http://tinyurl.com/dmwrg>

DECENTRALIZATION

Kevin Werbach. "Tech's newest trend — decentralization" *ZDNet News.* October 24, 20902. <http://tinyurl.com/e2446>

DEL.ICIO.US

Ethan Todras-Whitehill. "'Folksonomy' Carries Classifieds Beyond SWF and 'For Sale'" *New York Times.* October 5, 2005.

"license to license" *blog.del.icio.us.* August 17, 2005. <http://tinyurl.com/b3stn>

"we rolling" *blog.del.icio.us.* August 18, 2005. <http://tinyurl.com/8ucok>

EBAY

Adam Cohen. *The Perfect Store: Inside eBay.* Little, Brown and Company. 2002.

EMERGENT SYSTEMS

Steven Johnson. *Emergence: The Connected Lives of Ants, Brains, Cities, and Software.* Scribner. 2002. 288 pages.

"Emergence" *Wikipedia.* <http://tinyurl.com/76mk7> Accessed on October 14, 2005.

FLICKR

Richard Koman. "Stewart Butterfield on Flickr" *O'Reilly Network.* February 4, 2005. <http://tinyurl.com/d9v63>

"Flickr launches ranking service—'interestingness'" *Connected Internet.* August 2, 2005. <http://tinyurl.com/ex8bd>

Stewart Butterfield. "The New New Things" *FlickrBlog.* August 1, 2005. <http://tinyurl.com/at44f>

GOOGLE

"Google Milestones" *Google.com.* <http://tinyurl.com/8ghot> Accessed on October 10, 2005.

Chris Richardson. "The Gmail Ripple Effect" *Webpronews.com.* July 12, 2004. <http://tinyurl.com/9v73s>

NAPSTER, BITTORRENT, AND FILE SHARING

"Brief Timeline of the Internet" *Webopedia.com.* <http://tinyurl.com/c75jp>

"BitTorrent Gets $8.75M" *Redherring.com.* September 27, 2005. <http://tinyurl.com/9fs28> Accessed on October 10, 2005.

Ross J. Anderson. "The Eternity Service" <http://tinyurl.com/dlv5o> February 20, 2001.

THE LONG TAIL

Chris Anderson. "The Long Tail" *Wired.* October, 2004. <http://tinyurl.com/d7f7k>

WEB SERVICES

"Web services activity" *W3C.* <http://tinyurl.com/7o5su> Accessed on October 10, 2005.

WIKIPEDIA

"Wikipedia" *Wikipedia.* <http://tinyurl.com/878d8> Accessed on October 10, 2005.

Daniel Terdiman. "Wikibooks takes on textbook industry" *CNET News.com.* September 28, 2005. <http://tinyurl.com/9dr5o>