The Anti-Filter
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April 28, 1998

What problems are there with using filters?

Don Gentner and Jakob Nielsen once wrote an unusual article entitled "The Anit-Mac Interface,"[1] which challenged all of the basic axioms of graphical user interfaces. For this paper, I'm going to shamelessly steal their rhetorical strategy and try to present you with the anti-filter.

So what's wrong with filtering you ask? I've pursued this question for quite some time, and without getting into the messy details I'll assert:

- In practice, traditional filters mimic the human social role of—at best— editor, and—at worse—censor; **filters remove information which they believe to be useless or offensive**.

- "Artificial intelligence expert wrote that a computer will never be able to tell the difference between 'time flies like an arrow' and 'fruit flies like honey.'" Artificially Intelligent **filters cannot effectively apprehend the semantic content of language** (meaning) and charging them with sifting for meaningful information seems downright idiotic.

- If filtering is effective and ubiquitous it could have the potential of "Engendering a world of self-interested myopes,"[2] that is, **filtering could impose a world in which everyone wears rose-colored glasses**.

- Several critics have questioned the potentially sinister political use of filters and its sister-technology, rating:

  - Joseph Lasica's "Ratings Today, Censorship Tomorrow"[3]

  - Michawl Krantz's "Censor's Sensibility"[4]

  - Joshua Marshall's "The Trouble With PICS"[5]

[1] http://www.acm.org/cacm/AUG96/antimac.htm
[2] http://isj.www.media.mit.edu/projects/isj/SectionB/369.pdf
[3] http://www.salonmagazine.com/july97/21st/article.html
[4] http://www.pathfinder.com/time/magazine/1997/dom/970811/business.censors_sensi.html
[5] http://www.feedmag.com/html/feedline/97.09marshall/97.09marshall.html

Why filtering is necessary?	Now that I've briefly argued that filters are essentially detrimental, I'll argue that filtering (or something akin to it) is becoming absolutely necessary. **If we look at the history of information, we see that with any improvement in the means of information creation and distribution, our society concocts increasingly complex systems for reducing the resulting information overload.** With the advent of language, we created poetry: a mnemonic scheme for information retrieval. As language progressed and began to outstrip the capacities of poetry more complex oral mnemonic systems, like Simonides system of *loci* (memory places) and *imagines* (mental images) came into use.[6] The written word and the printing press necessitated still better systems for managing information: "Manuscripts with some sort of alphabetic index do not appear before the fourteenth century, and the index is by no means customary. Only with the printed book does an index become common."[7] The written word and the amount of information accompanying it's arrival provided the impetus artifices like page numbers, indices, tables of contents, and even vocations like editor, librarian, censor. **The advent of electronic text, hypertext, and the Internet again dramatically increased the amount of information generated and our ability to access this information.** To compensate first generations of web search and indexing tools were created. Most people will agree that while internet search engines and the like have stemmed the tide of information, they have already been outstripped.

[6] For a better discussion of the see Steve Johnson's *Interface Culture*, p. 12 or Daniel Boorstin's *The Discoverers*, Part 13, Section 60.

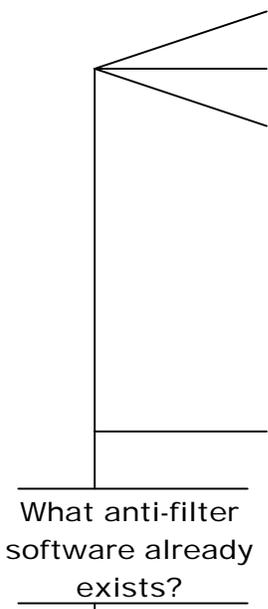[7] Daniel Boorstin's *The Discoverers*, Part 13, Section 65, (p.532)

| What alternatives are there to filtering? | A poor choice of keywords by a search engine user results in thousands or tens of thousands of "hits" each potentially leading to a bit of useful information, but none certainly. This is a sorry state of affairs and, necessity being the mother of invention, our modern conception of the artificially intelligent informationfilter came into being. However, as I argued before, traditional filtering has many shortcomings. So I'd like to offer up some filtering alternatives, **"anti-filters," which reduce information overload but don't censor document contents**.

Text Emphasis: You may have noted that I chose to bold certain key phrases in this document. This is one simple method for allowing better use of information that doesn't necessitate the removal of potentially meaningful information. Software which performs text emphasis on information it thinks is relevant to the user can be written, some actually already exists. Microsoft Word 97 has an "AutoSummarize" feature which allows users to optionally highlight text that the computer believes is important instead of removing text that it thinks is unimportant.

Smart Margins: In conjunction with text emphasis, I have also emulated an anti-filter by using one of the margins of this document to point out answers to common questions that my document answers. **These "Smart Margins" are another way in which computers can make sifting through information less tedious, but without really filtering.** Feed magazine uses a very similar technology to automatically incorporate links to other relevant information into documents.[8] |

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[8] http://www.feedmag.com/html/dialog/98.03dialog/question1_master.html

What anti-filter software already exists?	**Information Discovery:** Some systems work to find information that may interest a user according to a profile of the user's interests. Instead of removing all of the information the systems think is irrelevant, this class of anti-filter finds information that it believes is relevant. Several information discovery research systems are under development: - **The MIT Media Lab's Letizia**[9] - **Carnegie-Mellon's WebWatcher**[10] - **Stanford's SenseMaker**[11] **Fuzzification:** I had spoken previously in class about the possibility of tools for fuzzifying searches. In truth, several already exist, the most crude being the thesaurus[12]. A more sophisticated example of fuzzification is **AltaVista's "refine"** feature, which lets users branch out of narrow keyword searches into related items.[13] When we use fuzzification tools we are not trying to limit the information visible to us, as a using filter would do, but instead find related items that might be more relevant to us than what we are currently pursuing. **Pattern Matching and Concept Clustering:** Still another variety of anti-filter are tools which organize information in a more efficient manner, making our use of it less burdensome. Apple's **V-twin** pattern-matching system[14], University of Waterloo's **Jabbar** & **ConceptFinder**[15] concept clustering tools, and **inXight's**[16] **GUI widgets** all allow users to manage greater amounts of information through better organization instead of filtering.

[9] http://lieber.www.media.mit.edu/people/lieber/Lieberary/Letizia/Letizia.html
[10] http://www.cs.cmu.edu/afs/cs/user/dunja/www/pww.html
[11] http://www-diglib.stanford.edu/~mqwang/orals/tsld001.htm (slides)
   http://www1.acm.org:82/sigs/sigchi/chi97/proceedings/paper/mwb.htm (paper)
[12] http://www.thesaurus.com/
[13] http://altavista.digital.com (be sure to check out the "graph" button)
[14] http://www.feedmag.com/html/feedline/97.07johnson/97.07johnson.html

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[15] http://www1.acm.org:82/sigs/sigchi/chi97/proceedings/paper/rnk.htm
[16] http://www.inxight.com/inprod.htm