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Attorney Docket No: S96-213/PROV

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.:	60/035,205
Filed:	10 Jan 97
Title:	Improved Text Searching in Hypertext Systems
Applicant(s):	Lawrence Page
Examiner:	mot yet assigned
Art Unit:	not yet assigned

TRANSMITTAL OF MISSING PARTS

THE COMMISSIONER OF PATENTS AND TRADEMARKS Washington, DC 20231

Sir:

I HEREBY CERTIFY THAT THIS CORRESPONDENCE IS BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE AS FIRST CLASS MAIL ON THE DATE OF DEPOSIT INDICATED BELOW AND IS ADDRESSED TO: ASSISTANT COMMISSIONER FOR PATENTS, WASHINGTON, DC 20231. DATE OF DEPOSIT 3/28 97 DATE 3/28/97

Alexas mes SIGNED: THOMAS J. MCFARLANE REG. NO. 39,299

Transmitted herewith in the Provisional patent application identified above are:

[X] Small Entity Declaration; and

[X] A check in the amount of \$25 for the surcharge

Respectfully submitted,

Thomas (, matarlanc

Thomas J. McFarlane Reg. No. 39,299 426 Lowell Avenue Palo Alto, CA 94301 (415) 321-6630

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Dated: 3/28/97

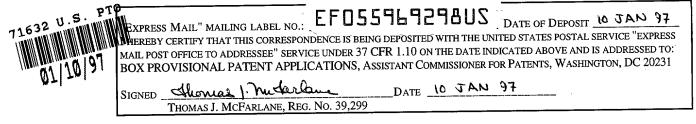
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THE COMMISSIONER OF PATENTS AND TRADEMARKS

Washington, DC 20231



Sir:

Transmitted herewith for filing is the provisional patent application of

Inventor(s): Lawrence Page

For: Improved Text Searching in Hypertext Systems

Enclosed are:

- [**x**] Provisional Application Cover Sheet
- $[\mathbf{x}]$ <u>25</u> pages of Specification
- [] _____ sheet(s) of drawings
- [] A verified statement to establish small entity status under 37 CFR 1.9 and CFR 1.27
- $[\times]$ A check in the amount of \$75 to cover the filing fee.

Respectfully submitted,

Dated: 1/10/97

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75-214 A/PROV. 60/035205

Provisional Patent Application of

Lawrence Page

for

Improved Text Searching in Hypertext Systems

FIELD OF THE INVENTION

10 This invention relates generally to techniques for database searching. More particularly, it relates to improved techniques for hypertext database searching.

DETAILED DESCRIPTION

The following appendix, attached hereto, provides a detailed description of the invention.

Appendix A: **24** pages;

TOTAL appended pages: 24 (description and drawings).

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APPENDIX A



Improved Text Searching in Hypertext Systems

There is a demonstration system, called BackRub, usually available at http://zam.stanford.edu:1972/ from within Stanford. Or, contact me, page@cs.stanford.edu to arrange for a demo.

Introduction and Summary

Existing search engines on the web produce very poor results when the query matches large numbers of documents. Yet, these simple queries are very frequently issued by users. Described here is a system which yields radically improved results for these queries using the additional information available from a large database of web links. This database of web citations is used to determine a citation importance ranking for every web page, which is then used to sort the query results. This system has been implemented, and yields excellent results, even on a relatively small database of four million web pages. Not only does the system yield better results, but it does so at significantly reduced computational cost, which can be a very large expense for web search engines¹. Demonstrating the improvement is as easy as picking a general query, for example "weather", and comparing the results to the results from a traditional web search engine, like AltaVista (the results section shows some sample queries).

Motivation and Discussion of System

Only recently with the advent of the web, have large numbers of people started to frequently search huge databases. The indexable part of the web is currently at least 60 million documents totaling around 480 gigabytes². AltaVista currently services 23 million user queries per weekday³. Many of these queries do not give people reasonable results, and improving this situation is a very important problem, especially as the web is growing very quickly⁴. The web search engines are the busiest sites on the entire web.

Many of the queries users perform in existing web search engines are simple one word queries which typicially return tens of thousands of documents that match the query. This problem is only going to get worse as the web grows. Since people are only able to examine a handful of documents, only the highest ranked documents

³From http://altavista.digital.com/.

¹AltaVista is run on several large computers that each cost around a million dollars. And, every time they add another machine, the demand increases instantly to fully utilize the new equipment. ²I recently downloaded 30 million web pages, and estimated this figure.

⁴Some researches have claimed that the web has been doubling in size every 6 months or so.

are ever seen. Most current search engines rank documents according to how often the search terms appear relative to the size of the document, and how close the matched terms are to the beginning of the document. So, a typical search for "university" will yield all the documents that have the term "university" several times very close to the beginning of the document. This ranking method yields documents that are quite random and of low quality (see the attached results comparison section). Many experts would claim that the results for a query "university" are not good because the user has not specified enough information to narrow their search, and they should be searching for something like "stanford university professor winograd". However, if all the user knows is that they are interested in universities, it makes much more sense to return general documents of high "quality" or "importance" that seem to be about universities, rather than the top ten out of 50,000 documents which happen to "best" include the query terms. By analyzing all the links on every web page we can compute a useful ranking that approximates a "quality" or "importance" criteria.

My demonstration system, called BackRub, returns almost entirely university homepages for the query "university" (see the attached section for comparisons of the query results). These are much more reasonable results for this "university" query then the standard approach. For this query, and most other simple queries, this system gives greatly improved results over the standard searching methods in use today, and at significantly lower computational cost.

While the system gives great improvement for simple, under constrained, queries, it also works slightly better for very specific queries, like "Jeffrey Ullman". These specific queries work quite well in the existing search engines, because there are usually few documents that match, and any that match a query like "Jeffrey Ullman" are usually close to what you are looking for. So, since these queries work well in existing search engines, it is impossible to radically improve the results. However, my search engine will tend to return the most significant page that matches. In this case, BackRub finds Jeff's main home page and returns it first. It is interesting to note that the home page Jeff does not maintain, in the College of Engineering, with very little information, is returned last in my system as it should be (again see the attached results section). However, AltaVista returns Jeff's college of engineering page as the first matching Stanford page, which is clearly not correct. So, my system still improves the search a fair amount, but not as much as an under constrained query where we have to pick between tens of thousands of possible documents to return.

PageRank -- An Approximation to "Importance"

The reason why my system works so well, is that it decides which documents to return, and in what order, by using an approximation to how well cited, or "important" the matching documents are. I will call this aproximation to importance PageRank from now on. Web pages get a higher PageRank from being mentioned on other pages. But, the PageRank a page gains from a citation is based

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on the PageRank of the page that cites it. This definition may sound circular because it is in fact circular. But, it turns out with a few small modifications, we can still compute a PageRank of this form. So a page can have high PageRank even if it only has one citation, such as from an ad on the Yahoo home page, which of course has high PageRank. Or, a web page can get a high PageRank by being pointed to from thousands of other pages, like the Netscape download page which has 31,284 pages that point to it in my system. The intuition is that if your query matches tens of thousands of documents, you would be happier looking at documents that many people thought to mention in their web pages, or that people who had important pages mentioned at least a few times.

Detailed Description

Although there are many components required to make the demonstration system, BackRub work, only the two main components, the PageRank system, and the search engine will be discussed here. The PageRank model and especially its use in search is what we believe to be new knowledge.

PageRank

This section will discuss the model behind PageRank, in practice what kind of documents have high PageRank, and possible future improvements in the model. It is interesting to note, that while we have been discussing use of PageRanks in queries, it is useful in its own right to have an objective measure for web documents in general.

PageRank Model

The simple motivation for the PageRank model is the following: Assume you have a set of weights for each page such that a page's weight is distributed evenly among its children. And, each page's weight is the sum of all the weights distributed from its backlinks. The analogy is that we have a hypothetical user who surfs the web randomly. Whichever page the user is on, they keep following links randomly from page to page, with an equal probability of picking any link on the current page. The probability that they will visit a given page is its PageRank. Obviously, any user who surfs randomly is much more likely to end up at the Netscape home page, then my modest home page, for example. In any case, the model turns out to be equivalent to computing the first eigenvector of the web which can be easily done using an iterative method.

The catch to this method is that the web has lots of cycles in its graph, and is not fully connected. So, we have what I like to call the cyclotron effect, where all the ranking "energy" ends up getting sucked into small loops, and goes around forever. In our random surfer analogy, this corresponds to the user getting stuck clicking back and forth between two pages which only point to each other. If such a "loop" exists, the random surfer will always end up in one if we assume surfing goes on

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forever. In reality, users do not surf forever only following links on the page they are currently on. Usually, people do another unrelated task after clicking through just a few links. To roughly model this, we assume that there is a small probability (15% in the current system) that the random surfer will jump to **any** random page in the system from the current page. This means a page's influence decays to be very small after traversing several links. In practice, the modified model works very well, but determining the 15% figure above is a matter of experimentation. If we set the damping amount to be 100% we are simply computing the number of backlinks (citations) that point to each page. This would probably work fairly well, but not nearly as well as the iterative method described here which takes into account things like advertisements on major sites. If we set the damping factor to zero, then we have the cyclotron effect, and no reasonable ranking. So clearly, some intermediate value for the damping is reasonable. An alternative method to damping is to simply only iterate a limited number of times, for example two, then we have computed something like backlinks of backlinks.

Possible Improvements to Model

One problem with this model is that it basically assumes that every page has some importance, because we are distributing 15% of the total PageRank to every page uniformly. But, importance has to start somewhere -- it needs to have some basis. As a malicious web page author, I could automatically create a large number of pages that all point to my home page, which will cause my home page to get a high PageRank. This is a problem, because there is a great commercial interest to be at the top of the results of any search engine, and many people try to "beat" the system by this sort of "spamming". I have considered distributing the damping 15% just to the major sites, like Netscape, which would likely completely alleviate this problem, and change the ranking little. But I need to do experiments to verify this. Another likely option for improvement that also helps solve the "spamming" problem is to compute how much of a page's PageRank is due to only the pages on the top several contributing servers. This would give a measure of how "general" a page's appeal is, which also might be useful for general search. Pages which had a very high PageRank that was based on only a very small number of servers would likely be not of general interest. This is because if the page were of general interest, many servers would likely have links to the page. Or, the page could be a page of general interest that was only recently created, and no one but major sites have known about it to create the link. This is a very difficult problem to solve in general. Copyright pages, which are often linked to from every page on a commercial site, often get a high PageRank only from links on one server. Almost no one links to these pages except for the site itself. The modification to consider on and off site links differently would help alleviate this copyright page problem. In practice, even though the copyright pages have a high PageRank, they are not too much of a problem when querying because they do not match that many queries.

The model could be much more sophisticated and take into account actual user behavior based on many parameters of the links on a page. For example, the model

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could take the font size and position on the page of a link as factors which determine how likely a link is to be clicked on. Another possible improvement is to weight more recently modified documents more highly. These types of improvements could yield significant gains in the quality of search results.

Implementation of PageRank

The iterative method used to compute the model can be very efficiently implemented. My implementation uses only half the RAM required to hold all the weights for the pages. The rest of the link information is kept on disk, and read sequentially. I have computed this model to reasonable convergence for 30 million pages and about 400 million links in several hours on a large workstation. This is a very small computational cost compared with building a full text index of the same amount of information. So, this computation required to compute PageRank is insignificant compared to the rest of the computation required to run a web search engine.

PageRank in Practice

In practice, a high PageRank seem to indicate several things. One is **popular content**, that is pages that people like a lot, and add to their public bookmarks, or otherwise mention on their pages. Good examples of this category include things such as search engines like AltaVista or popular web soap operas such as The Spot, both of which have high PageRanks, and large numbers of backlinks. A **root of a hierarchy** also tends to get a very high PageRank because all the nodes in the hierarchy point to it, as do many other people because it is the root, and you can rely on it being there and being a good place to start navigation. Examples of such pages might be a university homepage, company homepage, personal homepage, or Yahoo. Things people tend to put on their pages also end up with very high PageRanks. This includes things like the EFF's Blue Ribbon Campaign, and several companies that provide web counters automatically when you create a link to them, and the Excite search box which searches a local site.

While PageRank is not intended to approximate usage, it probably has a fairly high correlation with actual usage of web pages for most types of pages. Notably, things like sex, which people do not feel comfortable mentioning in their web pages, have a low PageRank, but high usage. PageRank may be better than usage data for measuring "eye traffic", that is how many people see various things. For example, many people see the Blue Ribbon logo all the time, but likely rarely follow it because they already know what it is. Brand name ads would fall into a similar category, where people see them a lot, but rarely follow them.

Search Engine

The search engine is quite simple and is primarily based on PageRank. Currently, it searches only the titles of the web documents due to space constraints, and returns

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the documents that match sorted by PageRank. It also does duplicate detection, and grouping by site. If the search engine was extended to search full text, some function of the full-text match value, and the PageRank value would have to be constructed to yield good results. Developing a reasonable rank-merge function would likely be a matter of some simple experimentation. If I simply did the same thing I am doing now on full text, any query that matched any part of Netscape's home page would always return Netscape's home page first, which is not a reasonable response.

When searching with an existing search engine, often a user finds a semi-relevant page, and then surfs from that page to what they are actually looking for. This means, that the user tends to end up at pages that have a lot of links, which tend to be of higher quality. My search engine helps automate this process, simply returning the higher quality pages first rather than relying on intermediate searching. Also, since the pages my system returns tend to be roots of hierarchies, they are often the most efficient place to start navigating from, assuming the user can not express exactly what they want using a boolean query specific enough to return only a few results.

Possible Enhancements to Search Engine

Besides full-text searching which is a necessary enhancement, another possible enhancement to the search engine is to search the titles of the backlinks to a document as well, and include them in the text-matching rating. Or, the text that is right around the neighborhood of a backlink could also be included in the textmatching rating. The intuition is that by looking at the text that occurs in the neighborhood around all the links to a page, we could get a good summary of a pages content. I am working on implementing these enhancements in the near future.

For certain queries, like "weather", the search engine already yields excellent Yahoo like categorizations automatically. Generating a set of queries for common categories and simply recording the results might be enough to build a reasonable automatically generated Yahoo like categorization system.

Possible Close or Related Patents

There is a company, which I have recently become aware of, located at http://www.linkrank.com/. They seem to be getting similar results, but they do not explain their methods in any detail. They claim they have a patent pending.

Results Explanation

I have chosen to display AltaVista vs. BackRub (my system). Most web search engines seem to give similar results to AltaVista.

The PageRank citation importance number, which determines the order of results, is depicted by the bar graph and number below it on the BackRub results. High PageRank indicates a well cited page. The bar graph gives you some idea of the absolute ranking of a page. A full bar graph is only displayed for Netscape's download page (the most highly ranked page at 6033.37). Obscure pages with only one link to them have a completely empty bar graph and a PageRank of much less than one⁵, and so are usually not returned unless there are very few documents that match a query.

BackRub's database is smaller (4 million pages) versus AltaVista's 30 million. Since BackRub can only search titles because of space and processing constraints, we have restricted AltaVista to search titles as well. Title searching generally seems to improve AltaVista's results for the kinds of queries we have displayed here, so we have not handicapped AltaVista.

Please feel free to try it out yourself and compare the results:

http://zam.stanford.edu:1972/ If it does not work, let me know and I'll start it up for you. Please keep in mind the smaller database, and lack of full text search. Also, the database only contains web pages which are inside of the US. Queries for city names, and state names, and companies with a reasonable web presence generally yield excellent results, and are good things to try first.

Example Queries (Printouts Follow)

1. "university"

BackRub returns major universities homepages, with only a few inappropriate pages. AltaVista returns pages which have university twice in their title first, which seem to be on relatively random topics. Note that there is a slight Stanford bias in the BackRub data, since I started downloading web documents at Stanford, so the Stanford ratings are slightly higher than you would normally expect.

2. "weather"

Note that the first four documents returned by BackRub are the major weather sites, The Weather Underground, The National Weather Service, Intellicast, and The Weather Channel. The indented results are the results that are on the same server, and should be generally considered as a unit with the documents above. A member of one of these weather companies considers the results BackRub returned to be very representative of the good weather services that are available. Indeed the results even represent a reasonable Yahoo like categorization of the topic. None of these four main sites that BackRub returned first are even in the first three pages of AltaVista's results! Note that if you were looking for weather information using AltaVista, you would scan through the list returned by AltaVista, and you would

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⁵The bar graph is a log scale, because the PageRanks seem to have a Zipfian distribution, as would be expected for any citation ranking system.

find a page that appeared to list a bunch of weather sites. Then, you would go to that page and then try to follow a link to a major site. This is exactly what BackRub and PageRank are automating for you, by returning the pointers to the major sites first.

3. "Jeffrey Ullman"

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Refer to the previous Motivation and Discussion section for an explanation of the results for this query.

university

Search

BackRub Query Results

BackRub's Highest Ranked Sites

University of Illinois at Urbana-Champaign <u>http://www.uiuc.edu/</u> 694.687 <u>8460 backlinks</u> 12k - 10/25/96 - 11/1/96

Stanford University Homepage <u>http://www.stanford.edu/</u> 609.303 <u>8857 backlinks</u> 4k - none - 11/1/96

> Stanford University: Portfolio Collection <u>http://www.stanford.edu/home/administration/portfolio.html</u> 167.919 <u>34 backlinks</u>

University of California, Irvine <u>http://www.uci.edu/</u> 273.621 <u>2390 backlinks</u> 2k - 10/20/96 - 11/1/96

Baylor University <u>http://www.baylor.edu/</u> 218.372 <u>2761 backlinks 6k - none - 11/1/96</u>

Glimpse Working Group - University of Arizona, CS Dept. <u>http://glimpse.cs.arizona.edu/</u> 214.736 <u>663 backlinks</u> 9k - none - 11/1/96 Duplicate: <u>http://glimpse.cs.arizona.edu:1994/</u>

Northwestern University: NUInfo <u>http://nuinfo.nwu.edu/</u> 204.169 <u>1227 backlinks</u> 3k - 9/28/96 - 11/1/96 Duplicate: <u>http://www.nwu.edu/</u>

University of Colorado at Boulder <u>http://www.colorado.edu/</u> 182.671 <u>3015 backlinks 4k - none - 11/1/96</u>

Iowa State University Homepage <u>http://www.iastate.edu/</u> 178.431 <u>2341 backlinks</u> 3k - 9/13/96 - 11/1/96 The George Washington University Home Page <u>http://www.gwu.edu/</u> 174.856 <u>2222 backlinks</u> 2k - none - 11/1/96

University of Virginia <u>http://www.virginia.edu/</u> 168.576 <u>2724 backlinks</u> 3k - none - 11/1/96

Monday, December 16, 1996

http://zam.stanford.edu:1972/cgi/title/ ?searchterm=university .

University of Wisconsin-Madison: WiscINFO http://www.wisc.edu/ 164.481 2331 backlinks 1k - 9/21/96 - 11/1/96 University of Pennsylvania http://www.upenn.edu/ 163.961 2755 backlinks Ik - 11/1/96 - 11/1/96 The University of Michigan http://www.umich.edu/ 151.114 2874 backlinks 1k - none - 11/1/96 Indiana University http://www.indiana.edu/ 146.445 1409 backlinks 1k - 9/28/96 - 11/1/96 Indiana University copyright statement http://www.indiana.edu/copyright.html 88.9323 703 backlinks_ Carnegie Mellon University http://www.cmu.edu/_____ 144.987 1762 backlinks 2k - 3/24/96 - 11/1/96 JHUNIVERSE: Johns Hopkins University on the Web http://www.jhu.edu/ 140.429 2060 backlinks 4k - 10/27/96 - 11/1/96 University of Minnesota http://www.umn.edu/ 136.827 2489 backlinks 0k - 10/11/96 - 11/1/96 University of Minnesota, Twin Cities Campus http://www.umn.edu/tc/ 102.56 424 backlinks The University of Delaware http://www.udel.edu/ 132.334 1598 backlinks 4k - 10/22/96 - 11/1/96 Welcome to the University of Chicago http://www.uchicago.edu/ 130.815 2770 backlinks 4k - 10/18/96 - 11/1/96 The University of Iowa <u>http://www.uiowa.edu/</u> 118.989 <u>1315 backlinks</u> 2k - 9/3/96 - 11/1/96 University of Florida Home Page http://www.ufl.edu/ 117.691 1997 backlinks 5k - 10/14/96 - 11/1/96 USCWeb, the University of Southern California http://www.usc.edu/ 115.256 1573 backlinks 4k - none - 11/1/96

Monday, December 16, 1996

http://zam.stanford.edu:1972/cgi/title/ ?searchterm=university ٠

Welcome to New York University http://www.nyu.edu/ 113.217 1884 backlinks 5k - 10/22/96 - 11/1/96 Michigan State University http://www.msu.edu/ 109.508 1623 backlinks 2k - 10/27/96 - 11/1/96 Cornell University Home Page http://www.cornell.edu/ 108.117 2319 backlinks 4k - none - 11/1/96 Purdue University http://www.purdue.edu/ 106.65 <u>1495 backlinks</u> 3k - 9/3/96 - 11/1/96 Harvard University WWW Home Page http://www.harvard.edu/ 101.376 2014 backlinks 4k - 10/12/96 - 11/1/96 Mississippi State University http://www.msstate.edu/ 99.1736 <u>1465 backlinks</u> 3k - none - 11/1/96 Alfred University http://www.alfred.edu/ 96.4112 1281 backlinks 3k - 9/11/96 - 11/1/96 UNICORN: Kansas State University's Information System http://www.ksu.edu/ 94.9499 <u>1388 backlinks</u> 3k - 8/22/96 - 11/1/96 University of Washington Home Page http://www.washington.edu/ 93.514 1376 backlinks 4k - 11/1/96 - 11/1/96 University of California, Santa Barbara http://www.ucsb.edu/ 91.8778 1685 backlinks 3k - none - 11/1/96 Boston University Home Page http://web.bu.edu/ 91.7343 1435 backlinks 14k - 10/22/96 - 11/1/96 North Dakota State University http://www.ndsu.nodak.edu/_____ 90.9534 770 backlinks_4k - none - 11/1/96 University of Maryland at College Park http://www.umcp.umd.edu/ 85.7528 1278 backlinks 4k - 10/25/96 - 11/1/96 University of Missouri - Rolla http://www.umr.edu/____ 85.5691 1233 backlinks 2k - none - 11/1/96

Monday, December 16, 1996

http://zam.stanford.edu:1972/cgi/title/ ?searchterm=university

BackRub Search: university

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Princeton University - Home Page
<u>http://www.princeton.edu/</u>
85.179 <u>1489 backlinks 4k - none - 11/1/96</u>
Bradley University

Bradley University <u>http://www.bradley.edu/</u> 84.435 <u>1171 backlinks</u> 5k - none - 11/1/96

Monday, December 16, 1996

http://zam.stanford.edu:1972/cgi/title/ ?searchterm=university

arch 📑	the Web	and	Display	the I	Results [in Standard	i Form
Alt onsite	AVISTA Knowledge	Sea	rch	Advanc	ed Simple	Private eXtensions Products	Help

Tip: To find a page from a given site, try: host:this.site.com

Word count: title:university: about 60000

Documents 1-10 of about 60000 matching the query, best matches first.

DePauw University Introduction/Intent of University Policy

Introduction/Intent of University Policy. Both use and abuse of alcohol have become widespread in our society. While most people are able to use alcohol...

http://www.depauw.edu/stulife5/section1.htm - size 2K - 20 Feb 96

University Medical Center (UMC) - University Physicians - Medical Offices -- Ar

Internal Medicine Office 6th floor at University Medical Center 1501 N. Campbell Avenue Tucson, Arizona 85724 (520)694-8888. Description of Facility. The.. http://www.ahsc.arizona.edu/~umc/inmedoff.htm - size 7K - 12 Apr 96

University Medical Center (UMC) -- University Physicians -- Physicians Resourc

Physicians' Resource Service (for physicians only) The Physicians' Resource Service provides 24-hour priority physician access to faculty physicians,...

http://www.ahsc.arizona.edu/~umc/resourc.htm - size 3K - 12 Apr 96

UNIVERSITY ARCHIVES, UNIVERSITY OF MISSOURI-ST. LOUIS

UNIVERSITY ARCHIVES, UNIVERSITY OF MISSOURI-ST. LOUIS. ADDRESS: 8001 Natural Bridge Rd. Thomas Jefferson Library St. Louis, MO 63121. TELEPHONE: (314)... http://library.wustl.edu/~spec/archives/aslaa/umsl-archives.html - size 2K - 16 Jun 96

The University of Queensland Enrolments 1995

The University of Queensland. STUDENT LOAD. 1994 1995. By Course Level: Higher Degree 2891 3032 Bachelor Degree 16165 16269 Other 1545 1630. By Group:... http://www.uq.edu.au/~adbamesb/stats/load.html - size 1K - 14 Dec 95

DePauw University Violations of University Regulations

Violations of University Regulations. The consupmtion and serving of alcoholic beversges involves responsibility for both individuals and groups. These ...

http://www.depauw.edu/stulife5/section3.htm - size 2K - 20 Feb 96

DePauw University University Alcohol Regulations

University Alcohol Regulations. Any violation of laws of the State of Indiana on alcohol is grounds for University disciplinary action. (See Section IV)... http://www.depauw.edu/stulife5/section2.htm - size 5K - 20 Feb 96

Use of University Facilities by the University Community (AD 1-7)

nbsp SIMON FRASER UNIVERSITY. Policies and Procedures. Date. May 1, 1969. Number. AD 1-7. Revision Date. December 1, 1980. Revision No. B.. http://www.sfu.ca/policies/admin/adl-07.htm - size 3K - 8 Feb 96

University Medical Center (UMC) - University Physicians - Medical Offices -- Ar

North Hills Center 265 West Ina Road Tucson, Arizona 85704 (520)575-7600. Description of Facility. North Hills Center is located at 265 W. Ina, just east.. http://www.ahsc.arizona.edu/~umc/norhill.htm - size 11K - 12 Apr 96

University Medical Center (UMC) - University Physicians - Medical Offices -- Ar

Broadway Family Health Center 2916 E. Broadway Blvd. Tucson, Arizona 85716 (520)694-8888. Description of Facility. The Broadway Family Health Center is...

http://www.ahsc.arizona.edu/~umc/famoffb.htm - size 8K - 12 Apr 96

p. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 [Next]

m

AltaVista Search onsite Knowledge

Submit

Tip: Do not use AND or OR to combine words, simply type a few words or phrases.

Word count: title:university: about 60000

Documents 11-20 of about 60000 matching the query, best matches first.

title:+university

University Medical Center (UMC) -- University Physicians--Primary Care--Arizon

Types of Primary Care. Your primary care doctor coordinates care for the majority of your health care needs. Here is information about primary care...

http://www.ahsc.arizona.edu/~umc/upchoose.htm - size 3K - 12 Apr 96

University Medical Center (UMC) Choosing the University Physicians -- Arizona

How to Choose The University Physicians/University Medical Center as Your Provider. The University Physicians is the professional group practice for ...

http://www.ahsc.arizona.edu/~umc/upselect.htm - size 4K - 12 Apr 96

The University of Chicago Library Server Usage

The University of Chicago Library Server Usage. The University of Chicago Library Server Usage. Week of Sun Jul 31 01:00:00 1994. Total accesses: 0. Total.

http://www.lib.uchicago.edu/wusage/week20.html - size 768 bytes - 14 Aug 94

The University of Chicago Library Server Usage

- The University of Chicago Library Server Usage. The University of Chicago Library Server Usage. Week of Sun Aug 21 01:00:00 1994. Total accesses: 3296
- http://www.lib.uchicago.edu/wusage/week23.html size 1K 4 Sep 94

The University of Chicago Library Server Usage

The University of Chicago Library Server Usage. The University of Chicago Library Server Usage. Week of Sun Sep 4 01:00:00 1994. Total accesses: 2927

http://www.lib.uchicago.edu/wusage/week25.html - size 1K - 18 Sep 94

The University of Chicago Library Server Usage

The University of Chicago Library Server Usage. The University of Chicago Library Server Usage. Week of Sun Sep 11 01:00:00 1994. Total accesses: 3360

http://www.lib.uchicago.edu/wusage/week26.html - size 1K - 25 Sep 94

DBUM;IPT WDC765: Department of Biochemistry, Faculty of Medicine University o,

DBUM;IPT WDC765: Department of Biochemistry, Faculty of Medicine University o, f Malaya, University of Malaya. ACRONYM DBUM; IPT REGISTRATION NUMBER 765... http://www.wdcm.riken.go.jp/database/CCINFO/489.html - size 2K - 12 Jun 96

<u>Boston University Emergency Medical Services</u>

THIS PAGE IS CURRENTLY. Boston University Emergency Medical Services is currently in the process of trying to gain Boston University Support, and ...

http://acs.bu.edu:8001/~larrdeut/buert.html - size 5K - 29 Feb 96

<u>Rice University: New policy for university deposits</u>

Beginning Monday, January 29, 1996, all University deposits (except for gifts) may be taken directly to the Cashier's Office on the first floor of Allen ... http://www.ruf.rice.edu/~controll/depchng.html - size 1K - 10 Jun 96

University Medical Center (UMC) -- University Physicians -- Medical Offices --

Family Practice Office 1450 N. Cherry Avenue Tucson, Arizona 85719 (520)694-8888. Description of Facility. The Family Practice Office is located at 1450...

http://www.ahsc.arizona.edu/~umc/famoff.htm - size 10K - 12 Apr 96

[Prev] p. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 [Next]

H

title:	+university							Submi	t
Search	the Web	and	Display	the	Results	;	n Standard	i Form	
A ons		Sea	721	Advai	nced Sin	nple	Private eXtensions Products	Help	

T

Tip: When in doubt use lower-case. Check out Help for better matches.

Word count: title:university: about 60000

Documents 21-30 of about 60000 matching the query, best matches first.

Division of Occupational Therapy, Queen's University

School of Rehabilitation Therapy, Division of Occupational Therapy. Philosophy and Objectives. Home Pages | Rehabilitation Therapy | Occupational Therapy.. http://meds-ssl0.meds.queensu.ca/medicine/rehab/otobject.htm - size 6K - 12 Jun 96

Anesthesiology Residency Program at University Hospitals of Cleveland/Case Wes

University Hospitals of Cleveland & Case Western Reserve University. Anesthesiology Residency Program. Message From the Chairman. Message From the ... http://mediswww.meds.cwru.edu/dept/anesth/program.htm - size 7K - 16 Jun 96

<u>Human Dimensions/ Fisheries Lab @ Texas A&M University</u>

Executive Summaries of Recent Research Completed for The Billfish Foundation: Costa Rica. A Social and Economic Study of the Costa Rica Recreational...

http://lutra.tamu.edu/Oc:/rditton/execcr.html - size 34K - 16 Jun 96

Human Dimensions/ Fisheries Lab @ Texas A&M University

- Executive Summaries of Recent Research Completed for The Billfish Foundation: Mexico. A Social and Economic Study of
 - the Recreational Billfish Fishery in..

http://lutra.tamu.edu/0c:/rditton/execmex.html - size 25K - 16 Jun 96

ARMENIAN STUDENTS' ASSOCIATION OF YORK UNIVERSITY

A.S.A. ARMENIAN STUDENTS' ASSOCIATION. YORK UNIVERSITY. Take a look at this site! LINKS. OTHER A.S.A. SITES. U of T. McGILL. U.C. BERKELEY. OTHER ARMENIAN.

http://www.yucc.yorku.ca/~asa/asa2.html - size 7K - 7 Apr 96

<u> University Medical Center (UMC) -- Arizona -- University Physicians</u>

University Physicians. How To Choose Us | Types of Primary Care Primary Care Physicians | Specialty Care Physicians Medical Offices | Physician Resource...

http://www.ahsc.arizona.edu/~umc/univphys.htm - size 2K - 13 Apr 96

University of Texas System - Permanent University Fund: Analysis of Growth THE UNIVERSITY OF TEXAS SYSTEM THE PERMANENT UNIVERSITY FUND ANALYSIS OF GROWTH IN THE VALUE OF THE PUF FOR THE YEARS 1991-1995 (Dollars in Millions) BOOK. http://mercury.utsystem.edu/FEB1996/Investments96/BookMarket1.html - size 6K - 29 Mar 96

Article List for Temple University School of Medicine and Thomas Jefferson Uni

Temple University School of Medicine and Thomas Jefferson University School of Medicine. 24 Oct 1995 -WHITEHALL-ROBINS HEALTHCARE NAMES ROGER G. BERLIN... http://projects.sra.com/nametag/demol/names/sub7/N1027.html - size 753 bytes - 1 Feb 96

University of Guelph Central WWW Server

University of Guelph Accomplishments. Rural elderly -- A recent project by Geography professor Alun Joseph shows that many small tural communities face... http://trillium.cs.uoguelph.ca/home_pages/home_page_model1/Accomplishments.html - size 4K - 16 Jun 96

Horizon Development Partners -- University of Chicago and Indiana University

University of Chicago and Indiana University, Horizon Development Partners. The University of Chicago and Indiana University are Ameritech Library...

http://www.als.ameritech.com/iu-uc.htm - size 3K - 31 Jan 96

[Prev] p. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 [Next]

m

weather

Search

BackRub Query Results

BackRub's Highest Ranked Sites

Welcome to The Weather Underground Inc. http://www.wunderground.com/forecasts/indexnew.html 229.685 567 backlinks 10k - 10/17/96 - 11/1/96 Interactive Weather Information Network http://iwin.nws.noaa.gov/iwin/main.html 220.778 610 backlinks 2k - 9/8/96 - 11/1/96 Interactive Weather Information Network http://iwin.nws.noaa.gov/iwin/graphicsversion/main.html 62.5904 336 backlinks Interactive Weather Information Network (text version) http://iwin.nws.noaa.gov/iwin/textversion/main.html 54.247 88 backlinks INTELLCAST: USA Weather http://www.intellicast.com/weather/usa/____ 207.477 1130 backlinks 9k - none - 11/1/96 The Weather Shops Home Page http://www.intellicast.com/wxshops/ 58.6819 92 backlinks INTELLiCast: world weather http://www.intellicast.com/weather/intl/ 58.193 600 backlinks INTELLiCast: December Almanac - Typical Weather Across The Country http://www.intellicast.com/weather/usa/papers/december.html 48.2945 195 backlinks The Weather Shops - Weather Instruments http://www.intellicast.com/wxshops/wxinst.htm 32,1697 17 backlinks The Weather Shops - Unique Gifts http://www.intellicast.com/wxshops/gifts.htm 21.4518 9 backlinks The Weather Shops - Books, Videos and Posters http://www.intellicast.com/wxshops/books.htm 20.2358 <u>8 backlinks</u> The Weather Shops - Weather Classroom

5

Nul

Sunday, December 15, 1996

http://zam.stanford.edu:1972/cgi/title/ ?searchterm=weather http://www.intellicast.com/wxshops/wxclass.htm 19.5332 9 backlinks

The Weather Shops - Seasonal Survival Tools <u>http://www.intellicast.com/wxshops/sstools.htm</u> 18.8673 <u>8 backlinks</u>

The Weather Channel

http://www.weather.com/index.html 181.226 <u>1076 backlinks</u> 8k - 11/1/96 - 11/1/96 Duplicate: <u>http://www.weather.com/</u>

> The Weather Channel Site Guide <u>http://www.weather.com/site_guide/</u> 102.73 <u>190 backlinks</u>

The Weather <u>http://www.weather.com/weather/</u> 101.968 <u>2036 backlinks</u>

Weather Whys <u>http://www.weather.com/weather_whys/</u> 89.1901 <u>1329 backlinks</u>

Weather News <u>http://www.weather.com/weather_news/</u> 79.7606 <u>1337</u> backlinks

Weather & You <u>http://www.weather.com/weather-n-you/</u> 74.7016 <u>1316 backlinks</u>

The Weather Channel - Skiers' Forecast <u>http://www.weather.com/ski/</u> 29.1629 <u>429 backlinks</u>

The Weather Channel <u>http://www.weather.com/weather/us/</u> 26.7181 <u>498 backlinks</u>

SALT LAKE CITY NATIONAL WEATHER SERVICE <u>http://nimbo.wrh.noaa.gov/Saltlake/slc.noaa.html</u> 77.5424 <u>3190 backlinks_</u>30k - 11/1/96 - 11/1/96

Aviation Weather Center and Storm Prediction Center <u>http://www.awc-kc.noaa.gov/index.html</u> 55.4443 <u>439 backlinks</u> 1k - 10/7/96 - 11/1/96

> Aviation Weather Center list of products <u>http://www.awc-kc.noaa.gov/awc/Aviation Weather Center.html</u> 33.7168 430 backlinks

Purdue Weather Processor <u>http://wxp.atms.purdue.edu/</u> 52.369 <u>514 backlinks</u> 1k - 7/8/96 - 11/1/96

Sunday, December 15, 1996

http://zam.stanford.edu:1972/cgi/title/ ?searchterm=weather Miscellaneous Weather Information <u>http://wxp.atms.purdue.edu/misc.html</u> 17.9834 <u>13 backlinks</u>

USA TODAY Weather <u>http://www.usatoday.com/weather/wfront.htm</u> 46.5076 <u>704 backlinks</u> 10k - 11/1/96 - 11/1/96

National Weather Service Welcome Page <u>http://www.nws.noaa.gov/</u> 45.6266 <u>833 backlinks_3k - 10/20/96 - 11/1/96</u>

WashingtonPost.com: Weather By City <u>http://www.webpoint.com/weather/washingtonpost/nat.htm</u> 41.3591 <u>66 backlinks</u> 7k - 8/16/96 - 11/1/96

Freese-Notis Weather.Net Services Page <u>http://www.weather.net/html/services.html</u> 32.0214 <u>390 backlinks</u> 7k - 5/19/96 - 11/1/96

CRREL - Weather in Europe <u>http://www.crrel.usace.army.mil/bosnia/bostabw.htm</u> 31.5759 <u>114 backlinks</u> 18k - 11/2/96 - 11/2/96

Weather on Boston.Com <u>http://www.boston.com/weather/home.htm</u> 26.2791 <u>350 backlinks</u> 4k - 10/25/96 - 11/1/96

The Weather Visualizer - University of Illinois <u>http://covis.atmos.uiuc.edu/covis/visualizer/</u> 24.1179 <u>147 backlinks</u> 2k - 10/21/96 - 11/1/96

Current Weather Maps/Movies <u>http://rs560.cl.msu.edu/weather/</u> 24.0205 <u>1058 backlinks 6k - none - 11/1/96</u>

> Interactive Weather Browser <u>http://rs560.cl.msu.edu/weather/interactive.html</u> 17.515 <u>744 backlinks</u>

Purdue Weather Processor <u>http://thunder.atms.purdue.edu/</u> 22.9037 <u>1098 backlinks</u> 0k - 7/16/96 - 11/1/96

Yahoo Weather Forecast <u>http://weather.yahoo.com/</u> 22.7441 <u>216 backlinks</u> 2k - none - 11/3/96

> Yahoo Weather Forecast <u>http://weather.yahoo.com/index.html</u> 19.7715 <u>253 backlinks</u>

The Weather Unit <u>http://faldo.atmos.uiuc.edu/w_unit/weather.html</u> 22.1811 <u>144 backlinks</u> 2k - 10/25/96 - 11/2/96

http://zam.stanford.edu:1972/cgi/title/ ?searchterm=weather

BáckRub Search: weather

Weather World <u>http://www.ems.psu.edu/WeatherWorld/</u> 21.792 <u>52 backlinks</u> 11k - 10/21/96 - 11/1/96

The Palm Beach Post Weather Page <u>http://www.pbpost.com/weather/index.html</u> 21.7622 <u>145 backlinks</u> 6k - none - 11/3/96

Current Weather Maps/Movies <u>http://wxweb.msu.edu/weather/</u> 21.4497 <u>255 backlinks</u> 6k - none - 11/1/96

TopNews: Weather <u>http://www.topnews.com/wx.html</u> 20.4341 <u>2 backlinks</u> 7k - none - 11/1/96

AltaVista Search onsite Knowledge	Advanced Simpl	e Products
	the Results	in Standard Form
title:+weather Tip: To find a bed-time stor	y: "fairy tale" +	frog -dragon

Word count: title:weather: about 10000

Documents 1-10 of about 10000 matching the query, best matches first.

Ag-Net Weather: Western San Joaquin Valley Special Weather & NOW-Casts

This page is a FREE demonstration until April 19. Sorry, but this page is now available only to registered subscribers. Please call Mike Corcoran at... http://206.214.38.222/ag-net/agwwsjvswnc.html - size 2K - 23 Apr 96

The Current Weather from Alabama Public Radio

Station Information][Program Information][News][Tuning In][Listen][Help Support Us][Weather][Internships][Contact Us][E-Mail Us] ... http://www.wual.ua.edu/weather.html - size 3K - 15 Jun 96

Ag-Net Weather: The Delta Special Weather & NOW-Casts

This page is a FREE demonstration until April 19. Content Copyright © 1996 GWC HTML Copyright © 1996 NetStorm, Inc. Generated 6/18/96 7:56:36...

http://206.214.38.222/ag-net/agwtdswnc.html - size 2K - 18 Jun 96

Ag-Net Weather: Wine Country Special Weather & NOW-Casts

This page is a FREE demonstration until April 19. Content Copyright © 1996 GWC HTML Copyright © 1996 NetStorm, Inc. Generated 6/18/96 7:56:36...

http://206.214.38.222/ag-net/agwwcswnc.html - size 2K - 18 Jun 96

Weather-Bos[™]: Weather-Bos[™] is Unique. Why?

Weather-BosTM is Unique.Why? Weather-BosTM contains only environmentally-safe ingredients. Many years of research and extensive weather testing ...

http://www.weatherbos.com/unique.htm - size 3K - 22 May 96

Tech: /Weather/cgi-bin/weather by city.pl (December 1995) The_

Server Statistics for The Tech: /Weather/cgi-bin/weather_by_city.pl (December 1995) More statistics (for accesses, browsers, and referrals), as well as... http://the-tech.mit.edu/Info/Wstats/1995/Dec/access.Dec1995.Weather.cgi-bin.weather_by_city_pl.html - size 3K - 27 Jan 96

The Tech: /Weather/cgi-bin/tech_weather.pl (December 1995)

Server Statistics for The Tech: /Weather/cgi-bin/tech_weather.pl (December 1995) More statistics (for accesses, browsers, and referrals), as well as our... http://the-tech.mit.edu/Info/Wstats/1995/Dec/access.Dec1995.Weather.cgi-bin.tech weather pl.html - size 3K - 27 Jan 96

National Weather Service, State College PA

Welcome to the Pennsylvania Climatology Homepage. Today is Wed Jun 19 23:14:16 EDT 1996 To return to main page just click. Current Regional Data. Central..

http://bookend.met.psu.edu/cgi-bin/CLIMO.cgi - size 2K - 20 Jun 96

type Document Title here

Wed Jun 19 21:39:26 EDT 1996. KZOK News: Sonics Return The Seattle Sonics return to Seattle at 12:30 this afternoon at Boeing Field. KZOK Weather: Partly.. http://www.kzok.com/html/nws/nws.html - size 2K - 20 Jun 96

Weather, weather, more weather

Weather, weather, more weather. The latest weather maps and movies. Interactive Weather Browser. Weather Station ID's. Quick Weather Pics. Weather...

http://euclid.math.fsu.edu/Weather/weather.html - size 763 bytes - 23 May 96

p. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 [Next]

+itle:+weather			[Submit]
Search the Web an	nd Display the	Resultsin	Standard Form
	earch Adva		Private Xtensions Products

Tip: Do not use AND or OR to combine words, simply type a few words or phrases.

Word count: title:weather: about 10000

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Documents 11-20 of about 10000 matching the query, best matches first.

National Weather Service, State College PA

Welcome to the Experimental HomePage. Wed Jun 19 20:02:17 EDT 1996 click here to to see whats new. Choose from a target area below. Weather Graphics

http://bookend.met.psu.edu/cgi-bin/exhome.cgi - size 1K - 20 Jun 96

Weather-Health Link: Asthma and the Weather

WEATHER-HEALTH LINK. The Canadian Medical Meteorology Network (CMMN). ASTHMA AND THE WEATHER. Homepage. Index. About us. What we provide. ASTHMA. Tom ... http://www.inforamp.net/~eeyore/asthma2.htm - size 8K - 19 Jun 96

KCRG's 9online - TV 9 Weather Lab - Beyond the Weather

Beyond The Weather with Meteorologist Joe Winters. Looking into the sky is something we do everyday to check weather conditions. How many of you have ...

http://www.fyiowa.com/kcrg/weather/kbeyon.htm - size 5K - 24 Apr 96

<u>The Earthquake and Weather Station ©</u>

- The Earthquake and Weather Station! *** TABLE OF CONTENTS *** Craig's Weather and Earthquake Reports, Images and Animations. NEW! For 28800-ISDN/FRAME...
 - http://griffithc.lib.csus.edu/weather/hsindex.htm size 12K 27 Feb 96

Nature Poem for the Week

Weather Trivia. June 18-19th. One of the very first computers dedicated to atmospheric science research was the IBM 1620--it could perform about 1,000... http://www.satlab.hawaii.edu/weather/trivia.html - size 4K - 19 Jun 96

Weather Project: Weather Project Mailing List Initialization

Weather Project Mailing List Initialization. Bob Tolbert (tolbert@xenon.chem.uidaho.edu) 27 Sep 1995. Messages sorted by: [date][thread][subject][...

http://xenon.chem.uidaho.edu/hypermail/weather/0000.html - size 3K - 19 Jun 96

NASA RP 1301: Weather Prospects for the Eclipse: Strategies to Cope with the W

STRATEGIES TO COPE WITH THE WEATHER. Outside of the southwestern U. S. and Mexico, weather becomes much more variable. Cloudiness changes with each ...

http://umbra.nascom.nasa.gov/eclipse/940510/text/weather-coping.html - size 2K - 19 Jun 96

Weather Forecasting Using the University of Michigan Weather Underground

Weather Forecasting Using the University of Michigan Weather Underground. Adapted to the World Wide Web from a file on the University of Michigan Gopher...

http://atm.geo.nsf.gov/instruction/forecast_contest.html - size 13K - 19 Jun 96

Weather Information From Other Servers

- Weather Information From Other Servers. This page contains the following different types of servers. University.
 - Government and Institution. Climate

http://www.met.utah.edu/html/other.html - size 29K - 29 Apr 96

North American Weather

- Current Weather in North America. For information on current hurricanes, tornados, earthquakes, and the like check
- out the Severe Weather Page. From the ...
- http://space.rice.edu/~rss/weather/namer.html size 17K 3 Jun 96

[Prev] p. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 [Next]

AltaVista Search onsite Knowledge	Advanced Sin	nple
Search the Web and Display	y the Results	
title:+weather		Submit
Tip: Do not use AND or OR to combine	words, simply ty	pe a few words of phrases.

Word count: title:weather: about 10000

Documents 21-30 of about 10000 matching the query, best matches first.

Dr. Ted K's Weather Links [--THE WEATHER PAGE--]

Dr. Ted K's Weather Links. National Weather Service Links. Regional Offices. Southern Offices. Central Offices. Western Offices. Pacific Offices. Weather.. <u> http://www.jsu.edu/depart/geography/Tedlink.html</u> - size 22K - 13 Jun 96

Whom God Loves he shakes the hell out of Special secret godly music music musi

Click RELOAD on your Netscape software when you get to page! - Click here to go to color page!!! - For SLOWER computers with slower modems! http://w3.trib.com/~acrutch/blacks.html - size 6K - 6 Jun 96

City of Maple Plain -Weather Information - Other Links to Weather Information

The Official weather information page for the City of Maple Plain. These pages contain links commercial weather services all over the USA. Thanks>

http://www.mapleplain.com/city/weathermore.html - size 6K - 24 May 96

<u>weather sites</u>

- Weather. The Science of Forecasting. http://antietam.nssl.uoknor.edu/mosaic_files/fffc/statefcst.html -- The State of Forecasting
- http://www.geo.nsf.gov/adgeo/geofield/geotopic/weather/weather.htm size 5K 14 May 96

The Earthquake and Weather Station ©

The Earthquake and Weather Station! *** TABLE OF CONTENTS *** Craig's Weather and Earthquake Reports, Images and Animations. NEW! For 2400-14400 Baud ... http://griffithc.lib.csus.edu/weather2/ - size 9K - 27 Feb 96

Web Weather Resource: Meteorology on the Web

Web Weather Resource. Meteorological Information on the Web. Send email to: dwlehning@nwiinc.com. Web Weather Resource was compiled by David W. Lehning

http://lochnet.com/client/dwlehning/wxdir/ - size 13K - 17 Jun 96

The Earthquake and Weather Station ©

The Earthquake and Weather Station! Please Choose Your Connection Speed or Browser Type. Craig's Weather and Earthquake Reports, Images and Animations http://griffithc.lib.csus.edu/weather/ - size 5K - 4 Jun 96

Allentown Weather Center - Weather Software and Instruments

Weather Instruments and Software. [SCHOOLS] [TV-RADIO] [INSTRUMENTS] [NWS-NWSFO] [WWW] [HOME] AGRIWEATHER INC. Weather Instrument Catalog. Alden... http://www.ot.com/~tjowens/instrument.html - size 7K - 16 Jun 96

Weather Watchers Weather Instruments

DIGITAL ELECTRONIC RAIN GUAGE -- "WIRELESS" Self emptying -- You never have to empty. Easy to install -- No wires to worry about. Measures rainfall in...

http://www.oia.net/~weatherwatchers/wx2h.html - size 1K - 23 Jan 96

Weather Watchers Weather Instruments

RAINWATCH DIGITAL RAIN GAUGE. Double duty rain gauge displays long or short term rainfall. Digital LED displays rainfall from 00.01" to 99.99". Reset...

http://www.oia.net/~weatherwatchers/wx2f.html - size 1K - 21 Jan 96

[Prev] p. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 [Next]

ullman; jeffrey

Search

BackRub Query Results

BackRub's Highest Ranked Sites

Jeffrey D. Ullman

<u>http://www-db.stanford.edu/~ullman/index.html</u> 1.96587 <u>13 backlinks</u> 2k - 10/22/96 - 11/1/96 Duplicate: <u>http://www-db.stanford.edu/~ullman/</u>

> Jeffrey D. Ullman -- Papers <u>http://www-db.stanford.edu/~ullman/ullman-papers.html</u> 0.681988 <u>4 backlinks</u>

Jeffrey D. Ullman --- Books <u>http://www-db.stanford.edu/~ullman/ullman-books.html</u> 0.5818 <u>10 backlinks</u>

Stanford University Professor - Jeffrey D. Ullman <u>http://www-ee.stanford.edu/compsci/faculty/Ullman_Jeffrey.html</u> 0.000549815 <u>1 backlinks_1k - 8/26/94 - 11/2/96</u>

AltaVista, Search		Private eXtensions	
OnSite Knowledge	Advanced Simple	Products Help	

in Standard Form and Display the Results Search the Web Submit title:+"Jeffrey Ullman" Tip: Do not use AND or OR to combine words, simply type a few words or phrases.

Word count: title:Jeffrey: about 3000; Ullman:11177

Documents 1-10 of about 5000 matching the query, best matches first.

Jeffrey Ullman

iman"

Jeffrey Ullman. Up-Close and Personal Conversation. Process these original and thought-provoking responses from Jeffrey Ullman, celebrated CS professor ...

http://www.geekchic.com/repliq3.htm - size 4K - 3 Apr 96

http://access.advr.com/~geekchic/repliq3.htm - size 4K - 19 Nov 95

<u>Stanford University Professor - Jeffrey D. Ullman</u>

Jeffrey D. Ullman. Professor. (and, by courtesy, of Electrical Engineering) Database Systems Ullman is working on the integration of databases and other ... http://www-soe.stanford.edu/compsci/faculty/Ullman_Jeffrey.html - size 1K - 27 Sep 94

Jeffrey D. Ullman

Jeffrey D. Ullman. J. E. Hopcroft and J. D. Ullman. Two results on one-way stack automata. In Conference Record of 1967 Eighth Annual Symposium on... http://theory.lcs.mit.edu/~dmjones/FOCS/Authors/ullmanjeffreyd.html - size 7K - 16 Jun 96

Jeffrey D. Ullman -- Papers

Jeffrey D. Ullman -- Recent Papers. Constraint Checking With Partial Information (PODS 1994 paper with coauthors Ashish Gupta, Shuky Sagiv, and Jennifer... http://www-db.stanford.edu/~ullman/ullman-papers.html - size 6K - 10 Jun 96

Elements of ML Programming --- Jeffrey D. Ullman

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James Ullman's Homepage

NAME James R. Ullman, 31 years old. CIVILSTATUS Married. RESIDENCE Permanent in Tromsø, Norway. CIVILIAN University of Tennessee, Knoxville EDUCATION 1982. http://irc.ingok.hitos.no/webmasters/james/ - size 4K - 10 May 96

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Judith Reichenberg-Ullman, N.D., M.S.W., DHANP. Judyth Reichenberg-Ullman, ND, DHANP, MSW is a licensed naturopathic physician board certified in... http://206.135.37.254/bios/reichenberg-ullman/advisory.htm - size 2K - 29 May 96

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ERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS (37 CFR 1.9(f) and 1.27(d)) – NONPROFIT ORGANIZATION

Application No.:60/035,205Filing Date:10 Jan 97Applicant(s):LAWRENCE PAGETitle:IMPROVED TEXT SEARCHING IN HYPERTEXT SYSTEMS

I hereby declare that I am an official empowered to act on behalf of the entity identified below:

Name of Concern: Address of Concern: The Board of Trustees of the Leland Stanford Junior University 900 Welch Road, Suite 350 Palo Alto, CA 94304

I hereby declare that the entity identified above qualifies as a nonprofit organization as defined in 37 CFR 1.9(e), for purposes of paying reduced fees to the United States Patent and Trademark Office under section 41(a) and (b) of Title 35, United States Code, in that the entity is an institution of higher education.

I hereby declare that rights under contract or law have been conveyed to and remain with the entity identified above with regard to the invention identified above.

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• NOTE: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27)

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I acknowledge the duty to file, in conjunction with any Patent Application filed based on this Provisional Application, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate (37 CFR 1.28(b)).

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