

# Technology, IP & Startups





# What is IP? Why is it important?

What is IP?

#### What is Intellectual Property?

Intellectual property (IP) refers to creations of the mind, such as inventions; literary and artistic works; designs; and symbols, names and images used in commerce.

### Types of IP

- Patents
- Copyrights
- Trademarks
- Trade secrets
- Geographic Indicators

#### **Patents**

### **Requirements**

#### Novel Inventive Utility

#### Validity

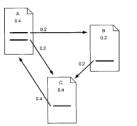
#### 20 years from issue

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#### (12) United States Patent (10) Patent No.: US 6.285.999 (45) Date of Patent: Page (54) METHOD FOR NODE RANKING IN A Craig Boyle "To link or not to link: An empirical compa LINKED DATABASE of Hypertext linking strategies". ACM 1992, pp. 221-2 L. Katz, "A new status index derived from socion (75) Inventor: Lawrence Page, Stanford, CA (US) analysis," 1953, Psychometricka, vol. 18, pp. 39-43. C.H. Hubbell, "An input-output approach to clique id (73) Assignce: The Board of Trustees of the Leland fication sociometry," 1965, pp. 377-399. Stanford Junior University, Stanford, Mizruchi et al., "Techniques for disaggregating centr CA (US) scores in social networks," 1996, Sociological Methodol (\*) Notice: Subject to any disclaimer, the term of this pp. 26-48. patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days. E. Garfield, "Citation analysis as a tool in journal eva tion," 1972, Science, vol. 178, pp. 471-479. Pinski et al., "Citation influence for journal aggregate (21) Appl. No.: 09/004,827 scientific publications: Theory, with application to the (22) Filed: Jan. 9, 1998 erature of physics," 1976, Inf. Proc. And Management, 12, pp. 297-312. Related U.S. Application Data N. Geller, "On the citation influence methodology of Pr Provisional application No. 60/035,205, filed on Jan. 10, (60)and Narin," 1978, Inf. Proc. And Management, vol. 14 93-95. (51) Int. CL<sup>2</sup> G06F 17/30 P. Doreian, "Measuring the relative standing of discipl (52) U.S. CL . 707/5: 707/7: 707/501 journals," 1988, Inf. Proc. And Management, vol. 24 45-56. (58) Field of Search 707/100.5.7. 707/513, 1-3, 10, 104, 501; 345/440; 382/226, 229, 230, 231 (List continued on next page.) (56) References Cited Primary Examiner-Thomas Black Assistant Examiner-Uyen Le U.S. PATENT DOCUMENTS (74) Attorney, Agent, or Firm-Harrity & Snyder L.L. 4,953,106 \* 8/1990 Gansner et al. ... 345/440 5,450,535 \* 9/1995 North ... 395/140 (57) 5,748,954 5/1998 Mauldin . 5,752,241 \* 5/1998 Cohen .... 395/610 A method assigns importance ranks to nodes in a lin . 707/3 database, such as any database of documents contai 5,832,494 \* 11/1998 Egger et al. 707/102 citations, the world wide web or any other hypern 5,848,407 \* 12/1998 Ishikawa et al. 707/2 707/501 database. The rank assigned to a document is calcul 6,014,678 \* 1/2000 Inoue et al. .... from the ranks of documents citing it. In addition, the OTHER PUBLICATIONS of a document is calculated from a constant representin S. Jeromy Carriere et al, "Web Query: Searching and Visuprobability that a browser through the database will domly jump to the document. The method is particular

alizing the Web through Connectivity", Computer Networks and ISDN Systems 29 (1997). pp. 1257-1267.\* Wang et al "Prefetching in Worl Wide Web", IEEE 1996, pp. 28-32.\*

Ramer et al "Similarity, Probability and Database Organisation: Extended Abstract", 1996, pp. 272.276.\*



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Sep. 4, 2001 Sheet 2 of 3 US 6,285,999 BI

U.S. Patent

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L. Katz, "A new status index derived from sociometric analysis," 1953, Psychometricka, vol. 18, pp. 39–43.		
C.H. Hubbell, "An input–output approach to clique identi- fication sociometry," 1965, pp. 377–399.		
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Pinski et al., "Citation influence for journal aggregates of scientific publications: Theory, with application to the lit- erature of physics," 1976, Inf. Proc. And Management, vol. 12, pp. 297–312.	DETERMINE A RANK (IN) FOR NODE & FROM A ${\bf k}^{\rm th}$ COMPONENT OF ${\bf p}_{\rm s}$	struct introduced by the user increases the chances that the decide information will be increases that chances that the decide information will be increases that chances that the
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Primary Examiner—Thomas Black Assistant Examiner—Uyen Le (74) Attorney, Agent, or Firm—Harrity & Snyder L.L.P.		
(57) ABSTRACT	US 6,285,999 B1	US 6,285,999 B1
A method assigns importance ranks to nodes in a linked database, such as any database of documents containing citations, the world wide web or any other hypermedia database. The rank assigned to a document is calculated from the ranks of documents citing it. In addition, the rank of a document is calculated from a constant representing the probability that a browser through the database will ran- domly jump to the document. The method is particularly useful in enhancing the performance of search engine results for hypermedia databases, such as the world wide web, whose documents have a large variation in quality.	<text><text><text><text><text><text><text><text><text></text></text></text></text></text></text></text></text></text>	<text><text><text><text><text><text><text><text><text><text><text><text></text></text></text></text></text></text></text></text></text></text></text></text>
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#### Patents - claims

It will be clear to one skilled in the art that the above embodiments may be altered in many ways without departing from the scope of the invention. Accordingly, the scope of the invention should be determined by the following claims and their legal equivalents.

What is claimed is:

1. A computer implemented method of scoring a plurality of linked documents, comprising:

obtaining a plurality of documents, at least some of the documents being linked documents, at least some of the documents being linking documents, and at least some of the documents being both linked documents and linking documents, each of the linked documents being pointed to by a link in one or more of the linking documents;

assigning a score to each of the linked documents based on scores of the one or more linking documents and

processing the linked documents according to their scores.

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2. The method of claim 1, wherein the assigning includes: identifying a weighting factor for each of the linking documents, the weighting factor being dependent on the number of links to the one or more linking

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documents, and adjusting the score of each of the one or more linking documents based on the identified weighting factor.

3. The method of claim 1, wherein the assigning includes: identifying a weighting factor for each of the linking documents, the weighting factor being dependent on an estimation of a probability that a linking document will be accessed, and

adjusting the score of each of the one or more linking documents based on the identified weighting factor.
4. The method of claim 1, wherein the assigning includes: identifying a weighting factor for each of the linking documents, the weighting factor being dependent on the URL, host, domain, author, institution, or last update time of the one or more linking documents, and

adjusting the score of each of the one or more linking documents based on the identified weighting factor.

5. The method of claim 1, wherein the assigning includes: identifying a weighting factor for each of the linking documents, the weighting factor being dependent on 25 whether the one or more linking documents are selected documents or roots, and

adjusting the score of each of the one or more linking documents based on the identified weighting factor. 6. The method of claim 1, wherein the assigning includes: 30 identifying a weighting factor for each of the linking documents, the weighting factor being dependent on the importance, visibility or textual emphasis of the links in the one or more linking documents, and adjusting the score of each of the one or more linking <sup>35</sup>

adjusting the score of each of the one of more linking so documents based on the identified weighting factor.
7. The method of claim 1, wherein the assigning includes: identifying a weighting factor for each of the linking documents, the weighting factor being dependent on a particular user's preferences, the rate at which users <sup>40</sup> access the one or more linking documents, and adjusting the score of each of the one or more linking document, and

documents based on the identified weighting factor. 8. A computer implemented method of determining a <sup>45</sup> score for a plurality of linked documents, comprising:

obtaining a plurality of linked documents; selecting one of the linked documents;

- assigning a score to the selected document that is dependent on scores of documents that link to the selected document; and
- processing the linked documents according to their scores.
- 9. A computer implemented method of ranking a plurality ...

#### 10

processing the linked documents according to their updated ranks.

- **10**. A computer implemented method of ranking a plurality of linked documents, comprising:
- automatically performing a random traversal of a plurality of linked documents, the random traversal including selecting a random link to traverse in a current linked document;
- for each linked document that is traversed, assigning a rank to the linked document that is dependent on the number of times the linked document has been traversed; and

processing the plurality of linked documents according to their rank.

11. The method of claim 10, wherein there is a predetermined probability that the next linked document to be traversed will be a random one according to a distribution of the plurality of linked documents.

12. The method of claim 1, wherein the processing 20 includes:

displaying links to the linked documents as a directory listing.

13. The method of claim 1, wherein the processing includes:

displaying links to the linked documents, and

- displaying annotations representing the score of each of the linked documents.
- 14. The method of claim 13, wherein the annotations are bars, icons, or text.
- The method of claim 1, further comprising: processing the linked documents based on textual matching.

16. The method of claim 15, wherein the textual matching includes matching anchor text associated with the links.

 The method of claim 1, further comprising: processing the linked documents based on groupings of the linked documents.

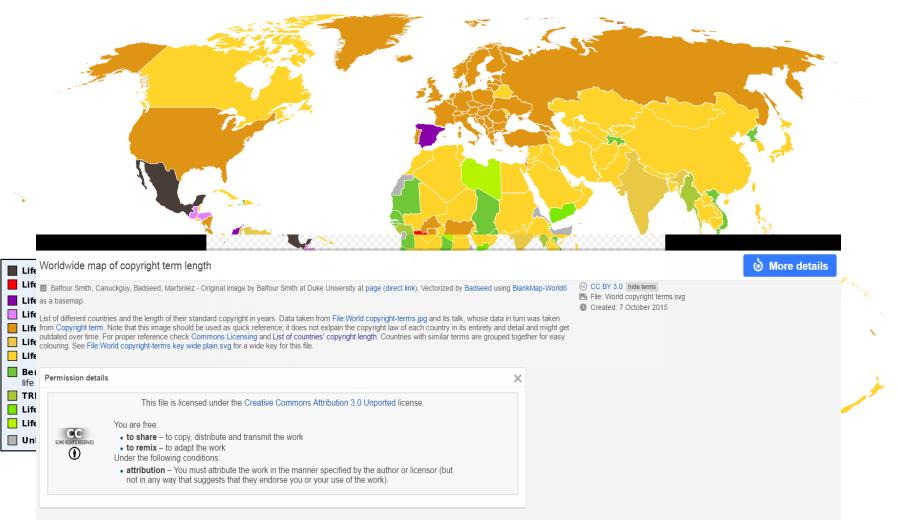
18. A computer-readable medium that stores instructions executable by one or more processing devices to perform a method for determining scores for a plurality of linked documents, comprising:

- instructions for obtaining a plurality of documents, at least some of the documents being linked documents, at least some of the documents being linking documents, and at least some of the documents being both linked documents and linking documents, each of the linked documents being pointed to by a link in one or more of the linking documents;
- instructions for determining a score for each of the linked documents based on scores for the one or more linking documents; and
- instructions for processing the linked documents according to their scores.
- 10 A computer-readable medium that stores instructions

### Copyrights

**Copyright** is the exclusive right given to the creator of a creative work to reproduce the work, usually for a limited time.

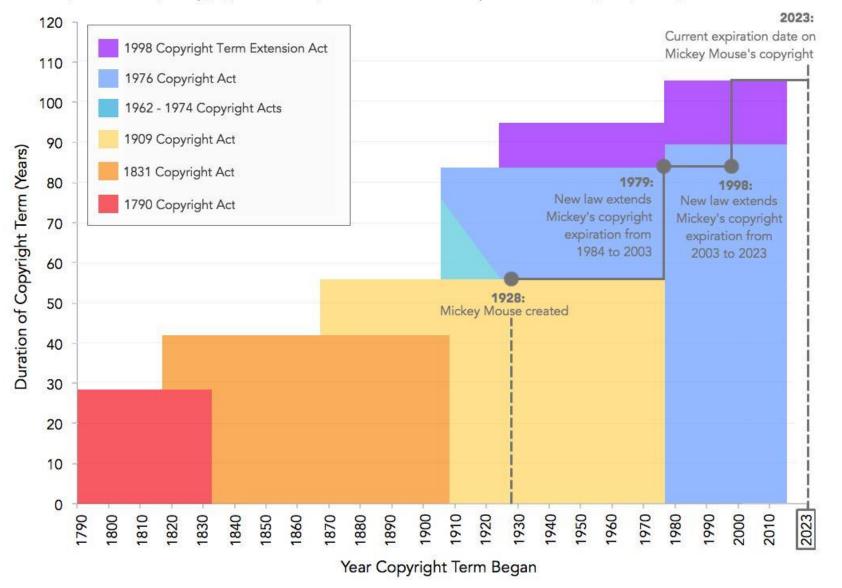
The creative work may be in a literary, artistic or musical form. Copyright is intended to protect the original expression of an idea in the form of a creative work, but not the idea itself.



About | Discussion | Help

#### Mickey Mouse's Effect on U.S. Copyright Law

Every time Disney's copyright on Mickey Mouse is about to expire, the law magically changes



Zachary Crockett, Priceonomics; data via Tom W. Bell

#### Trademarks





#### **Permission details**

This file is ineligible for **copyright** and therefore in the <u>public domain</u> because it consists entirely of information that is <u>common property and</u> <u>contains no original authorship</u>.

A **trademark** is a type of intellectual property consisting of a recognizable sign, design, or expression which identifies products or services of a particular source from those of others, although trademarks used to identify services are usually called service marks. The trademark owner can be an individual, business organization, or any legal entity. A trademark may be located on a package, a label, a voucher, or on the product itself. For the sake of corporate identity, trademarks are often displayed on company buildings. It is legally recognized as a type of intellectual property.

### Geographic Indicators



Parmigiano-Reggiano

<u>Myrabella</u> / <u>Wikimedia Commons</u> <u>CC BY-SA 4.0</u> Created: 9 March 2011



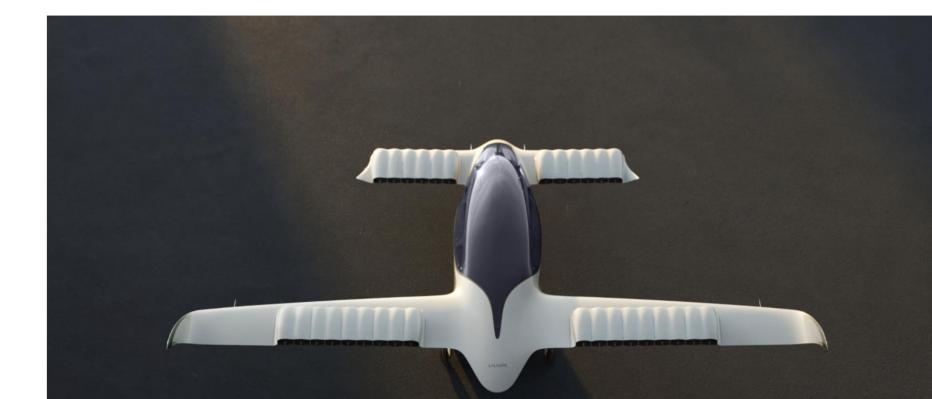
The region in which Parmigiano-Reggiano can be produced, according to EU and Italian PDO legislation

<u>CC BY-SA 4.0</u> File:Region Parmigiano-Reggiano.png Created: 12 September 2016 People foolish enough to think they can change the world, end up changing them - Apple commercial Here's to the crazy ones 1997

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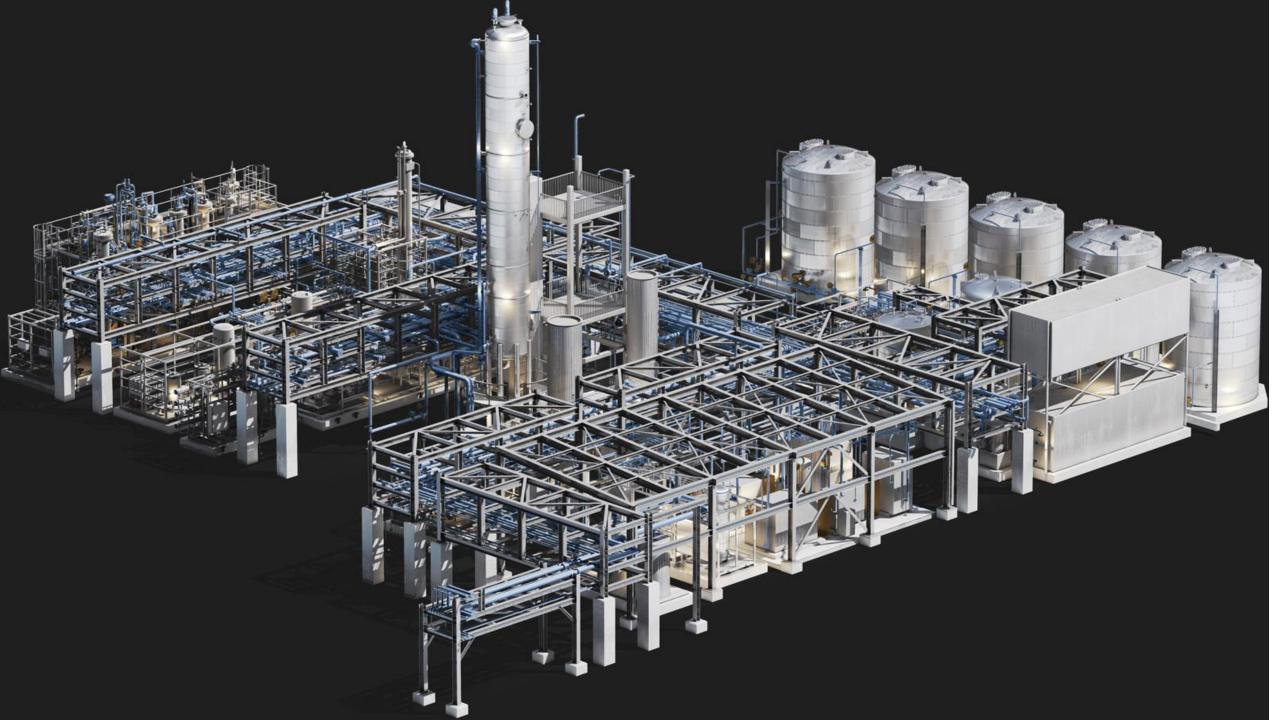
Oil & Gas



Concrete



Cleaning



## 1:1

Bioforge produces 1 ton of product per ton of feedstock

## 100M x

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**30,000t** Our process offsets over 30,000 tpy of CO<sub>2</sub> equivalent

## Our Story

A long-standing poker game with a group of University of Texas Southwestern medical students in Dallas brought Gaurab Chakrabarti and Sean Hunt together.

Gaurab, getting his MD/PhD, was researching a drug candidate for pancreatic cancer. Hunt was a grad student at MIT studying chemical engineering. They began discussing how to use enzymes in an industrial, chemical process, and now they have 500,000 sq ft of manufacturing space across two facilities. They are looking forward to taking on the chemicals industry at scale, one molecule at a time.

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