Title: A METHOD OF DETERMINING REPUTATION FOR COMMUNITY SEARCH ENGINES

Abstract: The invention relates to a method system and apparatus for providing a reputation factor in relation to an entity or a vertical search engine. This reputation factor can be used to assess the quality of an entity's contribution to a vertical search engine, or the quality of the output of a vertical search engine. The methodology of the invention is instigated through obtaining at least one input parameter indicative of the quality of an entity's contribution or the output of a vertical search engine, and then subsequently using this input parameter or parameters with a reputation calculation function to calculate the reputation factor required.
before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments. For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.
A METHOD OF DETERMINING REPUTATION FOR COMMUNITY SEARCH ENGINES

TECHNICAL FIELD

This invention relates to at least one method of calculating a reputation factor. In particular the present invention may be employed to calculate at least one reputation factor for an entity, and/or for a vertical search engine facility, where such a reputation factor or factors is used to assess the quality of results produced by a vertical search engine or an entity's contribution to a vertical search engine.

BACKGROUND ART

The prolific expansion and utilisation of the internet has made internet search engines an indispensable feature of many users' internet usage. Numerous techniques are known for search engines to enquire, catalogue and prioritise websites according to predetermined categories and/or according to the particular search query. Numerous methods of enhancing the quality of the search results provided by search engines according to particular search queries are known, including those disclosed in the applicant's earlier patent filings, US Patent No. 6,421,675, US09/155802, US10/213017, NZ518624, PCT/NZ02/00199 and NZ528385, incorporated herein by reference.

Conventional search engines filter and prioritise the search results providing a ranked listing based on: a) Keyword frequency and meta tags; b) Professional editors manually evaluating sites/directories; c) How much advertisers are prepared to pay, and d) Measuring which web-sites webmasters think are important implemented by link analysis, which gives more weighting to sites dependant on what other sites are linked to them.
US Patent Nos. 6,421,675, US10/155914, and US10/213017 disclose a means of refining searches according to the behaviour of previous users performing the same search. These patents harness the discriminatory powers of the user to effectively provide a further filtering and screening of search results to the subsequent behaviour when presented with search results listings. If a particular website is deemed to be of greater relevance, the user will typically access the website for some duration and/or perform other activities denoting a relevant website such as clicking on embedded links therein, downloading attachments, and the like. By preferentially weighting websites according to the user's behaviour in relationship to a particular search query, the search engine is able to enhance the relevance of the search result listings.

Despite the above developments, internet searching still presents the typical user with a multitude of results, only a small portion of which are relevant or even accessed by the user. The volume of results may be reduced and the relevance increased by use of one or more filters. Although not always provided by search engines, such filters range from geographical/domain name restrictions (for example, New Zealand websites only), newsgroups, blogs (web logs), directories, Boolean operators, file formats, images, mature content filters, and the like. Despite the availability of such filters, these must still be applied manually by the user and are thus ignored by typical users, averse to such overt and proactive searching actions. This results in infrequent and inefficient filter usage by typical users and by the search engines.

One attempt to address these issues has been through the provision of "vertical search engines". Such search engines are specifically tailored to provide results of the interest related to a particular topic or community of users. Users searching for material related to the specific topic of a vertical search engine are more likely to find relevant results quickly than with a general or internet wide search engine.
However, to date vertical search engines do require a degree of maintenance and input from creators, and in practice need to be manually customised on a one off basis to ensure the results they provide are relevant.

One more recent attempt to address these issues has been through the development and release of the Swicki, being a search wiki (wikis generally being known as a collaborative information resource compiled by a community of interested users). These search wikis or Swickis and their functionality are also generally described in published PCT patent specification No. WO 2006/011819.

A Swicki is a new kind of search engine that allows anyone to create focused searches on topics of interest to a selected group of users. Unlike other search engines, the Swicki creator and contributors have control over the results provided, where the Swicki uses the wisdom of the relevant community to improve search results.

The Swicki publisher or creator can customise the search engine by adding keywords that are always added to the search results. Swickis allow for the publisher to name specific websites that have content relevant to the search. For instance, a gaming site may include other gaming website URLs as important, and the Swicki will put results from those sites on the top of results lists. A publisher can also block results from certain sites or blogs.

The "wiki" aspect of these personalized search engines involves the collective groups that can influence a given topic. The applicants are developing ways for the creator of a Swicki to allow others to rate particular resources as good or bad.

The following techniques are proposed to implement this:

- Owner ratings, visitor weightings. In this option, whoever sets up a Swicki is the only person who can explicitly promote or delete certain pages from
the search results. The links clicked by visitors however can influence their ranking.

- Group ratings and weightings. A Swicki's creator may be able to allow a number of different people to improve the search results by promoting deleting, editing or adding results. However, all user clicks on search results can also influence those links' rankings.

- Web-wide ratings and weightings. Another alternative can enable a Swicki's owner to open up the resource-selection to anyone who visits the search engine. This degree of openness is something like the public editability of Wikipedia.org, perhaps the Web's best-known example of 'wiki' based collective writing.

- Owner influence only. A further alternative in which only the creator of a Swicki is allowed to select Web resources for a particular search engine and affect the ranking of individual links.

However, the communal nature of the Swickis implementation leads to the results provided only being as good as the inputs received from the creator or users of the Swicki. There is therefore a potential problem of numerous Swickis being available on similar or the same topics, with new users having to decide as to which of these Swickis would be the best to use for their own purposes.

Having people build up an online reputation is a common idea on the internet for things like trading (for example, eBay), answering questions (for example, Yahoo), and contributing to forums, message board and so forth.

Previous patent filings, as discussed above, describe the creation of Swickis with the following characteristics:

- User determining the topic of the search engine
• The user setting up filters to make the results provided more relevant

• Users contribute information to the search results (block promote etc)

• The Swicki learns from users what results are relevant

• The Swicki identifies search terms with poor results and asks a community
  of users for help finding answers

It would be of advantage to have a method, system or apparatus which could be
used to calculate a reputation for either a Swicki contributor, Swicki creator or a
Swicki itself. In particular having such a reputation calculation would allow the
quality of an entity’s contribution or efforts to be assessed relative to other entities,
in addition to allowing the quality of the output of a vertical search engine or Swicki
to be assessed relative to other Swickis or vertical search engines.

All references, including any patents or patent applications cited in this
specification are hereby incorporated by reference. No admission is made that any
reference constitutes prior art. The discussion of the references states what their
authors assert, and the applicants reserve the right to challenge the accuracy and
pertinency of the cited documents. It will be clearly understood that, although a
number of prior art publications are referred to herein, this reference does not
constitute an admission that any of these documents form part of the common
general knowledge in the art, in New Zealand or in any other country.

It is acknowledged that the term ‘comprise’ may, under varying jurisdictions, be
attributed with either an exclusive or an inclusive meaning. For the purpose of this
specification, and unless otherwise noted, the term ‘comprise’ shall have an
inclusive meaning - i.e. that it will be taken to mean an inclusion of not only the
listed components it directly references, but also other non-specified components
or elements. This rationale will also be used when the term ‘comprised’ or
'comprising' is used in relation to one or more steps in a method or process.

It is an object of the present invention to address the foregoing problems or at least to provide the public with a useful choice.

Further aspects and advantages of the present invention will become apparent from the ensuing description which is given by way of example only.

**DISCLOSURE OF INVENTION**

According to one aspect of the present invention there is provided a method of calculating a reputation factor for an entity, said reputation factor being used to assess the quality of an entity's contribution to at least one vertical search engine.

According to a further aspect of the present invention there is provided a method of calculating a reputation factor for an entity, said reputation factor being used to assess the quality of an entity's contribution to at least one vertical search engine, said method being characterised by the steps of;

i) obtaining at least one input parameter indicative of the quality of an entities contribution to at least one vertical search engine, and

ii) using said at least one input parameter with a reputation factor calculation function to calculate said reputation factor.

According to a further aspect of the present invention there is provided a method of calculating a reputation factor for a vertical search engine facility, said reputation factor being used to provide a relative measurement of the quality of a vertical search engine facility's output relative to other vertical search engine facilities.

According to yet another aspect of the present invention there is provided a method of calculating a reputation factor for a vertical search engine, said reputation factor being used to provide a relative measurement of the quality of
said vertical search engine’s output relative to other vertical search engines, said method being characterised by the steps of;

i) obtaining at least one input parameter indicative of the quality of a vertical search engine’s output, and

ii) using said at least one input parameter with a reputation factor calculation function to calculate a reputation factor.

The present invention may employ such input parameters and reputation factor calculation functions to calculate a general indicator value which can be used to provide a relative comparison between vertical search engines or entities associated with vertical search engines. Those skilled in the art should appreciate that the actual form or construction of the reputation factor calculation function is not necessarily as important as the input parameters selected for manipulation by this function, as only a relative measurement of reputation factor is required, not a specific measurement of reputation. Provided the same reputation factor calculation function is applied or employed to generate all reputation factors used, such relativity will be preserved.

Those skilled in the art should also appreciate that a range of reputation factor calculation functions may be employed in conjunction with the present invention. For example, in some instances the value of a single input parameter may be provided as a reputation factor, where in other instances weightings may be applied to these input parameters which can subsequently be added, multiplied or otherwise manipulated within a mathematical function with one another.

Preferably a vertical search engine facility is provided through a Swicki. As discussed above, Swickis can provide search wiki functionality which preferably may be implemented through computer software functionality embedded in one or preferably a large number of individual web sites. Such functionality may be
implemented through a side bar system where someone browsing a web site may easily access the Swicki functionality.

In a further preferred embodiment such Swicki functionality may also be centrally managed by an administrative entity, which may provide server hosting facilities for the Swickis involved. Such a central administrative entity may also provide a directory of all available Swickis in existence and administrate the implementation of Swicki technology to promote search results from advertisers on a commercial basis. Such a central administrative facility may also provide additional services to Swicki creators, contributors or users pertaining to the operation of Swickis, and may also act to distribute earnings from the advertising functions provided by the use of Swickis.

For example, in one preferred embodiment Swickis may be used to promote search results from particular advertiser’s web sites, where the advertiser has a strong interest in the focus or topic of the Swicki and a customer base associated with same.

Revenue mainly paid to the administrative entity hosting software code for the implementation of Swickis may in turn be distributed to Swicki creators and contributors depending on the merits of the contributions of all involved.

In some embodiments a central administrative facility associated with Swickis may allow Swicki creators and/or potentially Swicki contributors to register or subscribe to particular Swickis. For example, such creators or subscribers may connect to a central administrative web site (such as for example Swicki.com) to register their interest in a particular Swicki or potentially to create a Swicki.

Preferably Swickis may also provide a buzzcloud facility. A buzzcloud may indicate popular search terms or keywords employed by other users or contributors to the Swicki. A buzzcloud may potentially eliminate the need for a casual user to
consider what search keyword terms they would employ to find the information they need about a particular topic.

Preferably the present invention may be employed to calculate at least one reputation factor for either a Swicki itself, or an entity associated with the Swicki such as a Swicki creator, or a Swicki contributor. A reputation factor provided in accordance with the present invention may give a relative measurement of quality for either the entity's contribution or the Swicki itself, where for example the magnitude of a numeric reputation factor may indicate a higher reputation value relative to a smaller reputation factor. Those skilled in the art should appreciate that the mechanics of calculation of a reputation factor can have a significant number of different implementations.

Preferably a wide number and range of individual reputation factor calculation techniques may be employed in conjunction with the present invention. For example, as set out below are a number of potential techniques which could be employed to calculate a reputation factor for a Swicki contributor, Swicki creator or a Swicki itself. Those skilled in the art should appreciate that either a single technique may be used in some instances, or alternatively any combination or permutation of techniques may be employed depending on the application in which the Swicki technology is employed.

20  *How a Swicki creators reputation may be calculated:*

- How long they have been a member or registered creator of at least one Swicki.

- A count of the number of Swickis they have created.

- Rate of searches completed in a set time period, or volume of traffic on Swickis created (for example, average of 100 searches per day).
• Relative popularity of their Swickis. This can be relative to other similar Swickis, or other Swickis that have existed for the same length of time, or that have the same number of views from websites and so forth.

• A traffic rate or number count of unique users accessing their Swickis during a set time period.

• Activity level measurement of the users of their Swicki or Swickis (ie, searching, clicking, asking questions, promoting or deleting results, posting the Swicki on their own sites, and so forth.)

• Rate of moderating the Swicki (answering questions, modifying buzzcloud), also potentially how often they log in and answer things that need answering.

• A measurement of revenue earned from Swickis (for example, total and/or per visitor or search earnings rates).

• Rating of performance or quality as assigned manually by users and/or editorial human staff (including such aspects as trendy, cool, or fashionable, and so forth.)

• Reputation of Swickis they have created, as discussed below.

• Reputation as a Swicki contributor, as discussed below

• Any combination or permutation of the above mixed together.

20 How a Swicki creators reputation may be used:

• The Swicki creator can be given a visual indication of the reputation calculated, meaning people are more likely to use their Swickis if it is created by someone with high reputation. (eg 1-5 star metric indicator)
• The Swickis they create can be given preference in a directory of Swickis and as spotlight Swickis (thus driving more traffic to them).

• The Swickis they create could be given higher revenue share (for example, 70% instead of 60%, which gives an incentive to gain a higher reputation).

• They could get access to additional services (for example, custom help or third party partner offers).

• They could get access to additional advertising options – different advertisers to select from or their Swickis are suggested to advertisers before Swickis with low reputation.

• They could be listed on a site as experts in various categories and or globally – for example, there could be a list of the best known Swicki creators or the best in each different category.

• They could be given a Swicki reputation widget that they could use to display their reputation (for example, 4 star widget to post on blog etc)

• Any combination of the above mixed together

How a Swicki contributor reputation may be calculated:

• How long they have been a member or contributor, for example, 1-5 rating based on 20% percentiles of users and how long they have been members or contributors.

• How often they connect to a central administrative facility for Swickis.

• Rate or number of passive contributions to Swickis (or their rate compared to others in the Swicki) - searching and clicking on results.
• Rate or number of active contributions to Swickis - promoting, demoting, deleting search results and/or the number of contributions compared to others, for example, 1-5 rating depending on how many they make compared to others in the Swicki.

5 • Rate of having contributions accepted by moderator or community – each time a contribution is made the moderator either accepts it or does not giving a percentage acceptance rate.

• A rate or measurement of the number of positive feedback submissions received from other users – in addition to the moderator other users can comment on the quality of the suggestions.

• Number of Swickis which they have been assigned moderation rights to (or proportion compared to others) – if a user continually makes good suggestions they can be given moderator rights to a Swicki by the Swicki owner or creator.

10 • A measurement of amount earned from being a Swicki contributor – for example, in total or per suggestion.

• Any combination of the above mixed together, for example, total Swicki rank could be made up of: 2 times their ranking for contributions added to 3 times their Swicki log-on rank added to their Swicki moderator ranking.

20 How a Swicki contributors reputation may be used:

• The Swicki contributor can be given a visual indication of how good they are (for example, 5 stars) meaning that their future contributions are more likely to be accepted – everyone can see exactly what their ranking is and modify their interaction with them to suit.
• They can be listed as a expert in different Swickis (for example, 2nd rank for soccer Swicki, 12th rank for Fiji Travel Swicki – this can motivate users to try to make more contributions to become better ranked as a contributor to particular Swickis).

5 • They can be given moderator rights to Swickis – there could be a system to automatically allow Swicki contributors with a five star rating to make improvements to Swickis.

• They could earn a share of revenue from Swickis they contribute to – if the Swicki owner chooses they could give some revenue share of the Swicki to the top ten contributors to the Swicki as an example.

10 • If they choose to create a Swicki they could be given preferences (for example, they could be more likely to be approved to go in a directory of Swickis).

• They could go on an advanced user list to get first access to the new features from the provider of Swicki software tools.

15 • They could be paid by a central administrator of Swickis for their work.

• They could be given a Swicki reputation widget that they could use to display their reputation (for example, a small piece of code that identified them as a 5 star contributor to the Java Swicki that could be posted on a blog, profile page etc).

20 • The effect of them rating other Swickis, Swicki owners and Swicki contributors can be affected by their individual rating – for example someone with a poor reputation does not affect someone with a good reputation as much as the other way around.
• Any combination of the above mixed together to calculate a reputation factor.

*How Swicki reputation may be calculated:*

• The age of the Swicki or how long the Swicki has been in existence, for example 1-5 rating based on 20% percentiles of users and how long they have been members.

• Volume of traffic generated by or arriving at the Swicki. For example, an assessment or user may be made to differentiate traffic volumes that arrive from different websites or volumes of traffic directed to different websites and potential search engine optimisation measurements made.

• Relative volume of traffic (for example, for Swickis in a particular category, or their newness or the number of page views of their buzzcloud).

• Number of times Swicki sidebar is viewed (it will have a higher reputation if a site with a lot of traffic chooses to install the Swicki).

• Ratio of people clicking on buzzcloud compared to number of views – if lots of people choose to use terms in the buzzcloud it is likely to be more useful than if they do not choose to.

• A rate measurement for buzzcloud keyword updates.

• A count of the number of keyword terms in the buzzcloud – lots of terms indicate that the Swicki has lots of activity and the moderator is taking time to approve new terms.

• Number of people subscribed to the Swicki – total and relative to the number of searches.
• A rate or number of unique users accessing the Swicki over a set period of time.

• A count of number of questions asked via the Swicki. As Swickis may allow people to actively ask questions if they do not find what they are looking for, a high relative number of asked questions indicates strong community activity.

• A count of the number of unanswered questions associated with the Swicki – if questions are continually unanswered this is not a good indicator, but if they are actively answered then it indicates a quality Swicki.

• A Swicki community activity measure or rate of community activity – ie, relative rate of people promoting, demoting, rating contributions and so forth.

• A search results click through rate, potentially giving a percentage of time people click on search results. If this is high it probably indicates that people are finding what they are looking for.

• A count or rate of the number of repeat usage – ie, number of people returning to use the Swicki.

• Active rating from other users of the Swicki.

• Number of installations of the Swicki functionality or components in web sites – the more sites and blogs that have the buzzcloud provided the better the Swicki must be.

• A quality indicator previously assigned to a website or blog that hosts at least one component of the Swicki (for example, Alexa rank or number of page views the site gets).
• A count of the independent blogs or users posting referencing the Swicki (for example, Technocrati has a measure for how many times things are mentioned in blogs).

• Rating of quality as assigned manually by users and/or editorial human staff (including such aspects as trendy, cool, or fashionable, etc.)

• Any combination of the above mixed together to calculate a reputation factor.

*How Swicki reputation may be used:*

• The Swicki can be given a visual indication of how good (for example, 4 star) it is meaning people are more likely to use it compared to a Swicki with low reputation.

• High reputation Swickis can be given preference in the directory and as spotlight Swickis (thus driving more traffic to them and rewarding search engine optimisation efforts).

• The Swickis with higher reputation could be given higher revenue share

• The Swicki gets access to additional services (for example, increased size of custom indexing).

• The Swicki could get access to additional advertising options (advertisers can use this to decide what Swickis to advertise on and high reputation Swickis get suggested to advertisers first)

• Any combination of the above mixed together.
Knowing these reputations and communicating this can lead to improved Swickis, and users finding what they want faster. For example, the following provides some examples of how such reputation factor(s) could be used:

- If an interested user sees 3 Soccer Swickis and one has a higher reputation factor than others then it will be best to use that one.

- A Swicki owner can see a suggested change from an individual with high Swicki reputation then they are more likely to accept that change.

- If a Swicki creator with high reputation creates a new Swicki then that Swicki could in turn have a higher reputation than a Swicki created by someone with a lower reputation.

**BRIEF DESCRIPTION OF THE DRAWING**

Further aspects of the present invention will become apparent from the following description which is given by way of example only and with reference to the accompanying drawing in which:

**Figure 1** shows a block schematic flowchart of the steps executed in accordance with a preferred embodiment to calculate a reputation factor.

**BEST MODES FOR CARRYING OUT THE INVENTION**

Figure 1 shows a block schematic flowchart of the steps executed in accordance with a preferred embodiment to calculate a reputation factor. The three steps A, B and C illustrated in general terms illustrate a collation, calculation and output process used to calculate three different forms of reputation factor in such a preferred embodiment.

For example, in a first instance a reputation factor is to be calculated for a Swicki
creator. At stage A information pertaining to the number of Swickis created by the person in combination with the number of months each of these Swickis has being in existence is collated.

At stage B a calculation may be made as to the sum of the number of months each of the Swickis created has been in existence.

Finally at stage C this reputation factor can be provided as an output.

In an alternative reputation factor calculation, a contributor to a Swicki may be considered.

At the collation stage (A) a count can be made as to the number of Swickis the person involved has been given moderator rights to. Information pertaining to the number of searches completed by this particular person on average in relation to all Swickis available can also be collated.

At the calculation stage (B) of this process the average search per day rate across all Swickis is multiplied by the number of Swickis the particular person involved has been given access rights to.

Finally, the reputation factor calculated as discussed above is provided as an output.

A similar process may also be employed to calculate a reputation factor for a Swicki.

In particular at stage A of this process a collation of information pertaining to the number of times a Swicki has been installed on a web page is completed, in addition to a count of the number of months the Swicki has been in existence.

At the calculation stage (B) of this process, a reputation factor is provided through multiplying the age of the Swicki in months by the number of times it has been
installed on a unique or individual web page.

Finally at stage C of this process, the numeric value reputation factor calculated can be output to any further process which requires or uses same.

Aspects of the present invention have been described by way of example only and it should be appreciated that modifications and additions may be made thereto without departing from the scope thereof as defined in the appended claims.
WHAT WE CLAIM IS:

1. A method of calculating a reputation factor for an entity, said reputation factor being used to assess the quality of an entity's contribution to at least one vertical search engine.

2. A method of calculating a reputation factor for an entity as claimed in claim 1, said reputation factor being used to assess the quality of an entity's contribution to at least one vertical search engine, said method being characterised by the steps of;

   i) obtaining at least one input parameter indicative of the quality of an entities contribution to at least one vertical search engine, and

   ii) using said at least one input parameter with a reputation factor calculation function to calculate said reputation factor.

3. A method of calculating a reputation factor for an entity as claimed in claim 1 or claim 2 wherein the vertical search engine is formed by a Swicki.

4. A method of calculating a reputation factor for an entity as claimed in any one claims 1 to 3 wherein the entity is the creator of the vertical search engine.

5. A method of calculating a reputation factor for an entity as claimed in claim 4 where said reputation factor is calculated using the age of the oldest vertical search engine created by the creator.
6. A method of calculating a reputation factor for an entity as claimed in claim 4 or claim 5 where said reputation factor is calculated using a count of the number of vertical search engines created by the creator.

7. A method of calculating a reputation factor for an entity as claimed in any one of claims 4 to 6 where said reputation factor is calculated using a rate of searches completed in a set time period using the vertical search engine.

8. A method of calculating a reputation factor for an entity as claimed in any one of claims 4 to 7 where said reputation factor is calculated using a traffic rate associated with unique users employing the vertical search engine during a set time period.

9. A method of calculating a reputation factor for an entity as claimed in any one of claims 4 to 8 where said reputation factor is calculated using an activity level measurement for users of the vertical search engine.

10. A method of calculating a reputation factor for an entity as claimed in any one of claims 4 to 9 where said reputation factor is calculated using a rate of moderation associated with the creator.

11. A method of calculating a reputation factor for an entity as claimed in any one of claims 4 to 10 where said reputation factor is calculated using a measurement of revenue earned by the creator from the vertical search engine.

12. A method of calculating a reputation factor for an entity as claimed in any one of claims 4 to 11 where said reputation factor is calculated using a manually assigned rating supplied by users of the vertical search engine.

13. A method of calculating a reputation factor for an entity as claimed in any one of claims 4 to 12 where said reputation factor is calculated using
reputation factors calculated for at least one vertical search engine created by the creator.

14. A method of calculating a reputation factor for an entity as claimed in any one of claims 4 to 13 where said reputation factor is calculated using a reputation factor calculated for the creator when acting as a contributor to the vertical search engine.

15. A method of calculating a reputation factor for an entity as claimed in any one of claims 4 to 14 where said reputation factor is calculated using any combination of the input parameters with respect to claims 4 to 13.

16. A method of calculating a reputation factor for an entity as claimed in any one of claims 1 to 3 wherein the said entity is a contributor to the vertical search engine.

17. A method of calculating a reputation factor for an entity as claimed in claim 16 where said reputation factor is calculated using an age measurement of how long the contributor has been contributing to the vertical search engine.

18. A method of calculating a reputation factor for an entity as claimed in claim 16 or claim 17 where said reputation factor is calculated using a rate measurement of how often the contributor contacts a central administrative facility of the vertical search engine.

19. A method of calculating a reputation factor for an entity as claimed in any one of claims 16 to 18 where said reputation factor is calculated using the contributors rate of passive contributions to the vertical search engine.
20. A method of calculating a reputation factor for an entity as claimed in any one of claims 16 to 19 where said reputation factor is calculated using a contributors rate of active contributions to the vertical search engine.

21. A method of calculating a reputation factor for an entity as claimed in any one of claims 16 to 20 where said reputation factor is calculated using a contribution acceptance rate for the contributor.

22. A method of calculating a reputation factor for an entity as claimed in any one of claims 16 to 21 where said reputation factor is calculated using a measurement of positive feedback received from users of the vertical search engine with respect to contributions from the contributor.

23. A method of calculating a reputation factor for an entity as claimed in any one of claims 16 to 22 where said reputation factor is calculated using a measurement of the number of vertical search engines which the contributor has been assigned moderation rights to.

24. A method of calculating a reputation factor for an entity as claimed in any one of claims 16 to 23 where said reputation factor is calculated using a measurement of earnings made by the contributor with respect to the vertical search engine.

25. A method of calculating a reputation factor for an entity as claimed in any one of claims 16 to 24 where said reputation factor is calculated using any combination of the input parameters recited with respect to claims 17 to 24.

26. A method of calculating a reputation factor for a vertical search engine, said reputation factor being used to provide a relative measurement of the quality of said vertical search engine's output relative to other vertical search engines.
27. A method of calculating a reputation factor for a vertical search engine as claimed in claim 26, said reputation factor being used to provide a relative measurement of the quality of said vertical search engine’s output relative to other vertical search engines, said method being characterised by the steps of:

i) obtaining at least one input parameter indicative of the quality of a vertical search engine’s output, and

ii) using said at least one input parameter with a reputation factor calculation function to calculate a reputation factor.

28. A method of calculating a reputation factor for a vertical search engine as claimed in claim 26 or claim 27 wherein the vertical search engine is provide by a Swicki.

29. A method of calculating a reputation factor for a vertical search engine as claimed in any one of claims 26 to 28 where the Swicki displays a buzzcloud to users.

30. A method of calculating a reputation factor for a vertical search engine as claimed in any one of claims 26 to 29 where said reputation factor is calculated using an age measurement for the vertical search engine.

31. A method of calculating a reputation factor for a vertical search engine as claimed in any one of claims 26 to 30 where said reputation factor is calculated using a measurement of the volume of traffic generated by the vertical search engine.

32. A method of calculating a reputation factor for a vertical search engine as claimed in any one of claims 26 to 31 where said reputation factor is calculated using a rate of unique user accesses of the vertical search
engine over a set period of time.

33. A method of calculating a reputation factor for a vertical search engine as claimed in any one of claims 26 to 32 where said reputation factor is calculated using a search results click through rate.

34. A method of calculating a reputation factor for a vertical search engine as claimed in any one of claims 26 to 33 where said reputation factor is calculated using a count of repeat uses of the vertical search engine by users.

35. A method of calculating a reputation factor for a vertical search engine as claimed in any one of claims 26 to 34 where said reputation factor is calculated using a manually assigned reputation value provided by users of the vertical search engine.

36. A method of calculating a reputation factor for a vertical search engine as claimed in any one of claims 26 to 35 where said reputation factor is calculated using a quality indicator previously assigned to a website which hosts at least one component of the vertical search engine.

37. A method of calculating a reputation factor for a vertical search engine as claimed in any one of claims 26 to 36 where said reputation factor is calculated using a count of the number of websites which host or present components of the vertical search engine.

38. A method of calculating a reputation factor for a vertical search engine as claimed in any one of claims 26 to 37 where said reputation factor is calculated using a count of independent blog or web page posts which reference the vertical search engine.

39. A method of calculating a reputation factor for a vertical search engine as
claimed in any one of claims 28 to 38 where said reputation factor is calculated using a count of the number of times a side bar associated with the Swicki is viewed.

40. A method of calculating a reputation factor for a vertical search engine as claimed in any one of claims 28 to 39 where said reputation factor is calculated using a ratio of Swicki views to Swicki buzzcloud clicks.

41. A method of calculating a reputation factor for a vertical search engine as claimed in any one of claims 28 to 40 where said reputation factor is calculated using a rate measurement of buzzcloud keyword updates.

42. A method of calculating a reputation factor for a vertical search engine as claimed in any one of claims 28 to 41 wherein said reputation factor is calculated using a count of the number of keywords listed in the buzzcloud.

43. A method of calculating a reputation factor for a vertical search engine as claimed in any one of claims 28 to 42 where said reputation factor is calculated using a count of the number of people subscribed to the Swicki.

44. A method of calculating a reputation factor for a vertical search engine as claimed in any one of claims 28 to 43 where said reputation factor is calculated using a count of the number of questions asked via the Swicki.

45. A method of calculating a reputation factor for a vertical search engine as claimed in any one of claims 28 to 44 where said reputation factor is calculated using a count of the number of unanswered questions associated with the Swicki.

46. A method of calculating a reputation factor for a vertical search engine as claimed in any one of claims 28 to 45 where said reputation factor is calculated using a Swicki community activity measurement.
47. A method of calculating a reputation factor for a vertical search engine as claimed in any one of claims 26 to 46 where said reputation factor is calculated using any combination or permutation of the input parameters referenced with respect to claims 30 to 46.

48. A method of calculating a reputation factor for a vertical search engine substantially as herein described with reference to and as illustrated in the accompanying drawings and/or examples.

49. A method of calculating a reputation factor for an entity substantially as herein described with reference to and as illustrated in the accompanying drawings and/or examples.
# INTERNATIONAL SEARCH REPORT

**International application No.**
PCT/NZ2007/000188

## A. CLASSIFICATION OF SUBJECT MATTER

**Int. Cl.**

G06Q 50/00 (2006.01)  
G06F 17/30 (2006.01)

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

DWPI, USPTO, ESPACE ("search engine", reputation, rating, source, link, page)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

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X Further documents are listed in the continuation of Box C  
X See patent family annex

* Special categories of cited documents:
  
  **A** document defining the general state of the art which is not considered to be of particular relevance  
  **E** earlier application or patent but published on or after the international filing date  
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  **O** document referring to an oral disclosure, use, exhibition or other means  
  **P** document published prior to the international filing date but later than the priority date claimed  
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  **X** document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone  
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Date of the actual completion of the international search  
15 November 2007

Date of mailing of the international search report 23 NOV 2007

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Telephone No: (02) 6222 3671
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END OF ANNEX