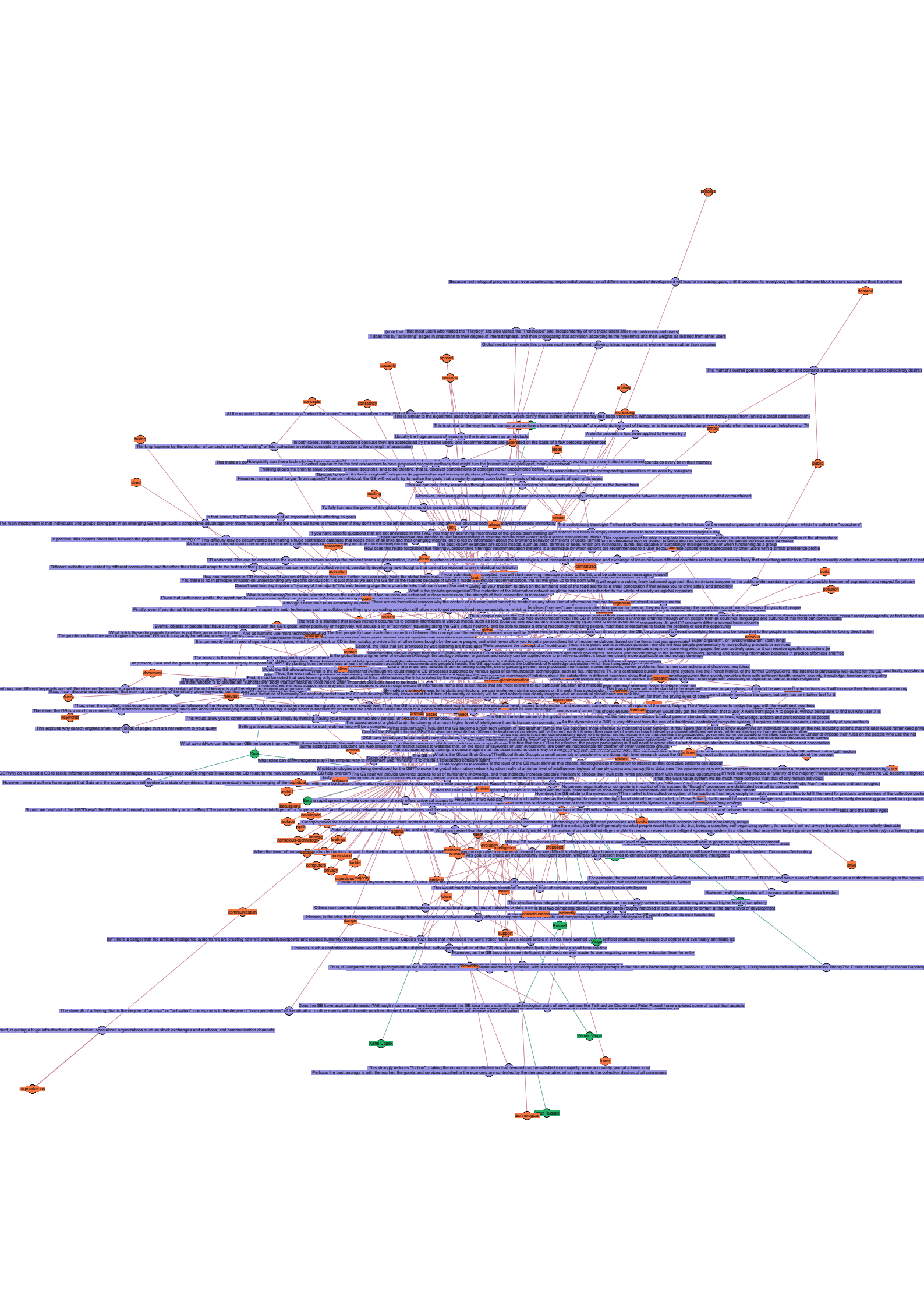
Because technological progress is an ever accelerating, exponential process, small differences in speed of development will lead to increasing gaps, until it becomes for everybody clear that the one block is more successful than the other one
demand
(note that : that most users who visited the "Playboy" site also visited the "Penthouse" site, independently of who these users are
their customers and users)
It does this by "activating" pages in proportion to their degree of interestingness, and then propagating that activation according to the hyperlinks and their weights as learned from other users
Global media have made this process much more efficient, allowing ideas to spread and evolve in hours rather than decades
The market's overall goal is to satisfy demand, and demand is simply a word for what the public collectively desires
This is similar to the algorithms used for digital cash payments, which certify that a certain amount of money has been transferred, without allowing you to track where that money came from (unlike a credit card transaction)
This is similar to the way hermits, tramps or adventurers have been living "outside" of society during most of history, or to the rare people in our present society who refuse to use a car, telephone or TV
A similar procedure has been applied to the web by J
Usually the huge amount of neurons in the brain is seen as an obstacle
In both cases, items are associated because they are appreciated by the same users, and recommendations are generated on the basis of a few personal preferences
Thinking happens by the activation of concepts and the "spreading" of this activation to related concepts, in proportion to the strength of association
This makes it po
Howquickly can these techno
Goertzel appear to be the first researchers to have proposed concrete methods that might turn the Internet into an intelligent, brain-like network
depends on every bit in their memory
Thinking allows the brain to solve problems, to make decisions, and to be creative, that is, discover combinations of concepts never encountered before
However, having a much larger "brain capacity" than an individual, the GB will not only try to realize the goals that a majority agrees upon but the myriads of idiosyncratic goals of each of its users
This we can only do by reasoning through analogies with the evolution of similar complex systems, such as the human brain
Moreover, increasing global exchanges of ideas, goods and services make it increasingly unlikely that strict separations between countries or groups can be created or maintained
To fully harness the power of this global brain, it should be constantly available, requiring a minimum of effort
In that sense, the GB will be conscious of all important events affecting its goals
The main mechanism is that individuals and groups taking part in an emerging GB will get such a competitive advantage over those not taking part that the others will have to imitate them if they don't want to be left behindol to survive long as our physical body
If you have specific questions that are not answered in FAQ, you may try searching thearchives of the global brain mailing lis
In practice, this creates direct links between the pages that are most strongly re
This difficulty may be circumvented by creating a huge centralized database that keeps track of all links and their changing weights, and is fed by information about the browsing behavior of millions of users (similar
As transport and communicaion become more efficiehi, ambient parts of once-remoty become more heterogeneoms
How does this relate tocollaborative filtering?Collaborative filtermgor recommendation systems is a technique by which options are recommended to a user because
GB andsocial : This can be extended to the evolution of human societyin the present trends of globalization, increa
Different websites are visited by different communities, and therefore their links will adapt to the tastes of the
Thus, society has some kind of a collective mind, constantly developing new thoughts that cannot be reduced to any individual contribution
How can learticipate in GB discussions?If you would like to explore the idea further, you can apply joiin the global brain
If your submissi
accepted, you will start receiving message posted to the list, and be able to send messages yourself
Yet, there is no in principle limitation on understanding any specific conclusion: it is just that as we ask the GB for all the reasons because of which it made a particular recommendation, the list will grow up to the point whe it will require a subtle, finely balanced approach that minimizes dangers to the public while maintaining as much as possible freedom of expression and respect for privacy
Doesn't web learning impose a "tyranny of themajority"?As web learning algorithms promote links that many users like, first
Giving up your freedom to drive on the left hand side of the road seems lie a small concession if that allows you to drive safely and smoothly!
What is the globalsuperorganism?The metaphor of the information network as global brain can be extended to the whole of society as aglobal organism
What is webbeaming?In the brain, learning follows the rule of Hebb: if two neurons are activated in close succession, the strength of their connection is increased
Given that preference profile, the agent can locate pages that satisfy the profile, and inform user, suggesting a goal
Although I have tried to as accurately as possi
There are no theoretical reasons why the content of a human mind cannot be tranded as any other kind of information that can be organized stored in various media
Finally, even if you do not fit into any of the communities that have shaped the web, techniques such as collaborative filtering or spreading activation still allow you to get personalized recommendations, which a
As ideas ("memes") are communicated from person to person, they evolve, assimilating the contributions and points of views of myriads of people
Thus, people can join the GB to help overcomecritics?The GB in principle provides a universal channel through which people from all countries, languages and cultures of the world can communicate
The web is a standard that allows network documents to contain information in various media, such as text, pictures, and sounds, and hence implementing hypertexts to link documents
researchers. AI and GB research differ in several basic aspects
Events, objects or people that have a strong association with the GB's goals, either positively or negatively, will arouse a lot of "activation" travelling along the GB's virtual neurons, and be able to create a strong reaction by mobilizing people, machines or resources to tackle the problem or use the opportunity
What holds these documents together is not their geographic location
And as humans use more technologies
The first people to have made the connection between this concept and the emerging internet may well be
observers or by electronic sensors can directly enter the GB, be processed to reveal underlying trends, and be forwarded to the people or institutions responsible for taking direct action
The problem is that if we wish to give the "narrow" GB such a capacity for self-improvement, we
collaborative filterin
It is commonly used in web shops, such as Amazon, which for any book or CD in their catalog provide a list of other items bought by the same people, and which even allow you to get a personalized list of recommendations, based on the items that you appreciate
Second, the links that are promoted by web learning are those appr
Wells proposed the concept of a "world brain
Thus, if the public wants to reduce pollution, the GB will lead people preferentially to non-polluting products or services
The reason is the Internet's decentralized, self-organizing nature, where
Metamemetics can be inferred from the GB? Why do we need a GB to tackle information overload?As more and more documents, services, and people move to the Internet, retrieving, sending and receiving information becomes in practice effortless and free
At present, Gaia and the global superorganism are still largely independent, and it by starting from the enormous amount of information available in documents and people's heads, the GB approach avoids the bottleneck of knowledge acquisition which has hampered AIsuccessfulness
Would the GB allowpolitical
What is the c
allow
the Internet?Although we could imagine GB processes supported by various types of communication technologies, such as fax, interactive TV, or a centralized bulletin board style system, like the French Minitel, or the former CompuServe, the Internet is particularly well-suited for the GB, and finally recycled o
Thus, the web may
Statistics about life satisfaction in different countries show that pe
morehappyWhen their society provides them with sufficient health, wealth, security, knowledge, freedom and equality
document
First, it must be noted that web learning only suggests additional links, while leaving the links created by the webpage's author in place
These links allow you to access a
its main function is to provide an "authoritative" body that can make its voice heard when important decisions need to be made
Gaia and the future of humanityCan anybodypredict how the GB will develop?Nobody knows what the future of humanity or society will be, and nobody can clearly imagine what an eventual global brain will look like
relevant
Thus, even the smallest, most eccentric minorities, such as followers of the Heaven's Gate cult, Trotskyites, researchers in quantum gravity or lovers of sweaty feet, Thus, the GB is a cheap and efficient way to increase the education level, access to information, and economic competitiveness in all regions of the world, helping Third World countries to bridge the gap with the wealthiest countries
Therefore, the GB is a much more univers
The emergence is that web learning takes into account the changing context of web surfing: a page which is relevant for you at this mo
This is not unlike the idea of a global brain becoming intelligent enough to solve its own problems
and its many ramifi
This should ensure
freedom
observer would only get the information that a user X went from page A to page B, without being able to find out who user X is
keywords
This would allow you to communicate with the GB simply by thinking, having your thoughts immediately sensed, understood, and enhanced
The GB in the wider sense of the global community interacting via the Internet can decide to adopt general standards, rules, or laws, knowledge, actions and preferences of all people
This explains why search engines often return lists of pages that are not relevant to your query
Setting universally accepted standards for such web learning will be a complex
Doesn't the GBspilt into rival GBs?It is also conceivable that different federations of countries will be formed, each following their own set of rules on how to develop a shared intelligent network, while minimizing exchanges with each other
What advantHow can the human-GBinterfacebe improved?With these technologies, the web would become a giant, collective memory, which unlike
It is true that for a GB to be effective, the people participating in it will need to agree about a set of common standards or rules to facilitate communication and cooperation
Some existing partial solutions are web browsers that restrict access to websites that, on the basis of keywords or user evaluations, are deemed inappropriate for children or other vulnerable groups
Won't the GB restrict authorship?Another recurrent fear is that
actions
What roles can softwareagents play?The simplest way to implement web "thinking" is to create a specialized software agent
system
Thus, the GB's value system will be much more complex than that of any human individual
However, several authors have argued that Gaia and the superorganism will evolve to a state of symbiosis, that may eventually lead to a merging of the
restrict
If then the user would
human
agent may continue to interact with the web, representing its ever-changing owner's personality and desires as it where his or her immortal "ghost"
How does the GB relate to the neweconomy?The market is the collective system of transactions that helps supply to match demand, and thus to fulfill the need for products and services of the collective custo
Highlight: If two web pa
Should we beafraid of the GB?Doesn't the GB reduce humanity to an insect colony or to theBorg?The use of the terms "collective intelligence" or "superorganism" and the analogy between web learning techniques and the way ant colonies lay out a network of trails may invite the comparison of the GB with a "hive mind", that is, acollectivism which the members all think and behave the same, lacking any autonomy or personal identity
Like the market, the GB will generally do what people would like it to do, but, being a complex, self-organizing system, its reactions will not always be predictable, or even wholly desirable
Automatic recognition of speech, images and even en
Vinge suggested that the trigger for this singularity might be the creation of an artificial intelligence able to create an even more intelligent system by system to a situation that may either help it (positive feelings) or hinder it (negative feelings) in achieving its goal
Will the GB becomeconscious?Feelings can be seen as a lower level of awareness orconsciousnessof what is going on in a system's environment
When the trend of humans
understand
humanity
As's goal is to create an independently intelligent system, whereas GB research aims to enhance existing individual and collective intelligence
computers
privacy
consciousmajority
Similar to many mystical traditions, the GB idea holds the promise of a much enhanced level of consciousness and a state of deep synergy or union that encompasses humanity as a whole
For example, the present net would not work without standards such as HTML, HTTP, and TCP/IP, and basic rules of "netiquette" such as a restrictions on hackings or the spread
This would mark the "metasystem transition" to a higher level of evolution, way beyond present human intelligence
However, well-chosen rules will increase rather than decrease freedom
This simultaneous integration and differentiation creates an increasingly coherent system, functioning at a much higher level of complexity
communication
Others may use techniques derived from artificial intelligence, such as software agents, neural networks or data mining that two competing blocks, even if they seem roughly matched in size, are unlikely to remain at the same level of development
Johnson, is the idea that intelligence can also emerge from the interactions between essentially different components
Russell
support
Isn't there a danger that the artificial intelligence systems we are creating now will eventualloverpower and replace humanity?Many publications, from Karel Capek's 1921 book that introduced the word "robot" toBill Joy's recent article in Wired, have warned that artificial creatures may escape our control and eventually annihilate us
However, such a centralized database would fit poorly with the distributed, self-organizing nature of the GB idea, and is therefore likely to offer only a short term solution
Moreover, as the GB becomes more intelligent, it will become
easier to use, requiring an ever lower education level for entry
Thus, it Compared to the superorganism as we have defined it, this "Gaia
anism seems very primitive, with a level of intelligence comparable perhaps to the one of a bacteriumytighen,DateNov 8, 2000(modified)Aug 9, 2000(created)HomeMetasystem Transition theoryThe Future of HumanityThe Social Superor
The strength of a feeling, that is the degree of "arousal" or "activation", corresponds to the degree of "unexpectedness" of the situation: routine events will not create much excitement, but a sudden surprise or danger will release a lot of activation
Does the GB have aspiritual dimension?Although most researchers have addressed the GB idea from a scientific or technological point of view, authors like Teilhard de Chardin and Peter Russell have explored some of its spiritual aspects
ent, requiring a huge infrastructure of middlemen, specialized organizations such as stock exchanges and auctions, and communication channels
Karel Capek
Henry Ford
Adam
This strongly reduces "friction", making the economy more efficient so that demand can be satisfied more rapidly, more accurately, and at a lower cost
Perhaps the best analogy is with the market: the goods and services supplied in the economy are controlled by the demand variable, which represents the collective desires of all consumers
orgmarketing
technological
Peter Russell