

The Concept of a Shared Focus Network Related to Information-Based Workflow, Productivity and Security

A Position Paper
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Abstract: Business and Homeland Security trends indicate an increasing demand for findability and accountability related to personal activities, interests and involvement – all forms of personal “focus”. The Information Technology (IT) field is being called to produce “actionable intelligence” from the vast sources of available information in response to these demands as well as in response to traditional demands such as productivity and competitiveness. Shared focus network (SFN) technology is proposed as a timely and marketable extension to our existing automation engine, allowing users to immediately answer questions related to groups of people who share a similar focus, based on their activity. This paper defines the SFN topic and is intended for a small group of industry experts, advisors and collaborators. Our immediate goal is to identify a product or solution in an appropriate market where the feasibility of applying this technology can be studied.

Introduction

Watch not what I say but what I do.

The year is 2006 and the company which helped us *create* digital information (Microsoft) is being overshadowed by the company which is helping us *find* it (Google). This is a sign of the times, as strategic and operational advances are depending more and more on the availability of better information.

There are many categories of information of importance to the business and government sectors so we need to quickly narrow the focus. Our interest is in enhancing “information-based workflow” which includes the automation of relevant information gathering and the automation of related actions. Getting the *right* information, at the *right* time, and doing so in a manner that significantly improves his/her productivity, efficiency or effectiveness is our goal. The right time is often *now*. Determining the right information would seem to be the job of a mind-reader or at least a very attentive administrative assistant. It turns out that we can make a significant impact by focusing on the *documents* in a person’s workspace to provide clues to what is pertinent information. By intelligently automating related data access and fulfillment activities, the information worker is assisted by the software, which is described as a “workflow automation” and “intelligent assistance” system (US patent application #20060095473).

We are currently focusing on expanding the knowledge base on which the software operates. In particular, we are investigating the value of adding *activity*, *relationships* and *social network* information to the mix. Why? Several colloquial phrases touch on this topic:

“With a little help from our friends” and *“It’s all in whom you know”* – Some would say that a person does not need to know the answer to every question – but it helps to know people who do know the answers. In situations where this is true it would be valuable to have a system with knowledge of who has a connection-to, knowledge-of or experience-with the topic in question.

“Everybody is related by six degrees of separation” (or the *small world phenomenon*) – It is the first two degrees of separation that are of interest, along with the ways that people are related. It has

become common knowledge that Homeland Security efforts are employing “social network” methodologies based on telephone call records. Phone calls are one of a large number of interpersonal connections that can be used to relate one person to another. Pure social network applications are said to be difficult to monetize when networking is the goal, but as a methodology it becomes a valuable tool.

“Watch not what I say but what I do.” - People have relationships to “things” in addition to people, by way of their activities (what they do). For example, people:

- *Subscribe* to publications, white papers, blogs, RSS feeds and other events
- *Contact* others by phone, fax, email, instant messaging and video conference
- *Service* accounts, clients, patients and customers
- *Join* associations, clubs and other groups
- *Attend* schools, courses, seminars, meetings and conventions
- *Open/read/visit* documents and Web sites

And the list goes on. The relevance of particular activities and the ability to record, search and relate them varies by business and application. The question becomes: Which of these activities, combined with other attributes and document content, constitute a value-producing knowledge base, and in what market(s)? A simple example follows:

Reference Example: You are scheduled to sign a vendor contract which is part of a larger project. This involves a commitment to dates, manpower and money, each of which has multiple dependencies. For this project you may or may not be using project management software to centralize plans and correspondence. You may or may not be the project lead, and you may or may not have a group of project managers who should be able to validate the appropriateness of this commitment. Either way, you want to assess the decision and risk yourself. You would be aided by the ability to identify specific people (in your organization and possibly in collaborating organizations) who may be integral to this decision by way of their focus on related activities – even if they are not part of the official project team. You would also be aided by the ability to identify communications that may have not been filed in a project management database. You need to make this decision before lunch, today. And before lunch, tomorrow, you will have made three or four similar decisions.

Our interest is more specific and applied than the social network concept of who-knows-who, where a generic *knows* predicate links people together. With human business workflow, people, places and things are related by predicates like *activity*, *interest* and *involvement*. In other words, people with a **shared focus** form a virtual **network**.

The **purpose** of this paper is to define the topics related to this investigation. Our immediate goal is to identify a product or solution in an appropriate market where the feasibility of applying this technology can be studied. The audience of this paper includes a small group of industry experts, advisors and collaborators. Your feedback and perspective are much appreciated.

Before addressing the specific aspects of a “shared focus network” software system, or the markets to which it applies, we take a look at trends in business and technology which may impact the usefulness and value of such a system. Please note that in this discussion we are making no effort to distinguish between the specific definitions of “data”, “information” and “knowledge”. We acknowledge that there is a continuum of interpretation, value and meaning as data is transformed into knowledge.

Accelerating Information Demands

We have identified four high-level areas of current industry focus which relate to the usefulness and marketability of a product or solution in the shared-focus category.

Findability

Findability refers to the quality of being locatable, retrievable or navigable. Findability is not limited to the World Wide Web, from where the term emerged; the concept is universal and timeless. Findability is an attribute of information of many types and the implementation of findability is related to the type of information being sought.

The trend towards more efficient findability is driven by the widespread demand to have pertinent information made more readily available. The technical challenges are varied; two related endeavors are worthy of mention:

Solving the Unstructured Data Problem: Due to its sheer size and complexity, the problem will not be solved overnight or by one single approach. Evolving component tools are available in this space for solution-building.

The Semantic Web (Web 2.0): Generally considered to be valuable as a general goal rather than a rigid specification for web content, the semantic web project by Berners-Lee has clearly helped improve findability by focusing our attention on the problem and on standards like RDF (Resource Description Framework) Schemas.

References: Wikipedia, "Ambient Findability" by Peter Morville, O'Reilly Press, 2005

Actionable Intelligence and Sensemaking

These are just two of the terms in use which refer to the extraction of meaning from vast amounts of information. There is currently a convergence of business intelligence (BI) platforms with sensemaking functionality for decision analytics.

PARC Research identifies sensemaking as an approach and a set of technologies which enable deeper understanding, better decision making, improved communication and collaboration and greater productivity. Bill Gates recently addressed the current problem of simultaneous information overload and underload, which is being addressed with a combination of efforts, such as productivity tools, BI, collaboration and workflow optimization. With these definitions, it is clear that our focus falls under this umbrella. As with findability, the space is quite large and evolving component tools are available for solution-building.

Convergence of Communication Paths

Telephones, VOIP, cable, instant messaging (IM), video conferencing, email and web browsing - they are all data streams (usually 2-way) now that most everything is digitized. Devices are merging and the conduits are, too. This trend is not new. What is significant is that this is related to a trend toward **centralization**. The software delivery

model, called **Software as a Service (SaaS)** is also related to the current trend toward centralization.

The pendulum swing away from innovation at the periphery and toward the center (also marked by industry **consolidation**) signals that the broadly defined information technology (IT) world is approaching the top of an S-shaped curve of IT innovation. As new paradigms of IT approach we find ourselves in a period of extracting more value out of existing systems.

Security and Accountability

The broad definition of these concepts includes the topics of risk management, governance, responsibility, regulation and compliance. The trend is toward more of each as companies move from treating them as projects, to treating them as business processes, as in **compliance** with Sarbanes-Oxley (SOX) and the Patriot Act. The implementation of compliance is moving from snap-shot reviews and audits to **real-time** assessment methodologies. The new regulatory climate marks a permanent change in how business is conducted and how performance is measured.

The business processes being developed for good governance are the same that will result in good business. Ken McGee of Gartner described the concept of "predicting the present". By identifying and justifying the right real-time information, organizations can better assess opportunities and improve their performance.

References: McGee, K., [Heads Up](#), Harvard Press, 2004

These four high-level trends are somewhat interdependent because they rely on, and are drivers for, a group of underlying activities and behaviors, such as **collaboration, openness, monitoring and analysis**. Collaboration dynamics are changing as companies are making shorter-term commitments, forming "just-in-time" (JIT) project teams and undergoing mergers and acquisitions.

The Current Environment

Catch the Wave

Where is the wave and how big is it? Or, to put it more formally: What is the significance for the marketability of "shared focus network" technology based on the nature of these current trends? We conclude that:

- *Information is Becoming More Available* for all of the above reasons.
- *More Useful Information is in Demand* shifting the emphasis away from quantity of information toward quality of information.
- "*Do It Better*" is replacing "*Do More*" as a working mantra.
- The *current paradigm* of IT still has markets because the goals represented by the four trends will not be met, or replaced by newer paradigms, overnight.

There are perhaps multiple waves related to that set of trends. To give a name to the one we are eyeing, it is this: **the ability to instantaneously answer questions** of more types is on the rise. The size of this wave relates to the importance of unanswered questions relative to our ability to answer them. In order

to monetize this form of technology there must exist one or more markets where: (a) it is still difficult to answer the type(s) of questions that such a system could answer, and (b) there is significant value in answering such questions. This has led us to three broad areas for consideration: Homeland Security, regulatory compliance management and decision making in Project Management (PM). In each case there exists the need to answer different sorts of questions than we typically think of asking a CRM, accounting or PM package.

Shared Focus Network Applications

Why this will make waves

A "shared focus network" (SFN) application requires the combination of (a) multiple forms of activity monitoring, data collection and data integration, (b) the creation of **relationships** forming a virtual shared focus network, and (c) exposure of shared focus information to question askers and line-of-business applications. The automation of activity capture and analysis is necessary because people have a tendency to not perform additional data-related tasks for the good of a system or group, beyond what impacts them directly.

In an SFN activity capture (i.e.: phone calls) occurs inside an organization, allowing local extension details to be combined with local computer desktop activity. This is in contrast with and a supplement to telephone record based social networks that are used for Homeland Security. Security and **confidentiality** issues are assumed to exist with such systems. Confidentiality control can be applied during implementation. In cases where personal or raw data cannot be exposed, federated wrappers can be used to publish trends and summary data.

The SFN approach is to concentrate on people and what they are focusing on, in an effort to be of service to the SFN user. The positioning and monetization of this technology is under consideration, with the following as examples:

- SFN as an *Add-On* to existing CRM, BI and Project Management software packages
- *SaaS* implementation of SFN functionality
- *Distribution* of SFN trends and analyses
- *Homeland Security* utilization of SFN technology, data and/or models

Thanks you for time and consideration in reviewing this material.