WWAI: How is the Web Growing? Into a Social Super-Organism or a Mass of Disconnected Information?

Moderator
Robert B. Lisek (Fundamental Research Lab)

Panelists
Alessandro Ludovico (UBERMORGEN.COM)
Jonah Brucker-Cohen (Trinity College Dublin)
Martha Carrer Cruz Gabriel (Universidade de São Paulo)
Monika May (www.DigitalMAY.com and Colorado Technical University)

While the World Wide Web could become the nerve center for a social super-organism, it remains frustratingly rudimentary. Documents lack uniformity and integration; linking is unintelligent and unstable; interaction is limited, controlled by authors and browsers. However, things are changing. Advances in artificial intelligence could be applied to the WWW, transforming it to a globally distributed, massively parallel, wetware-oriented universe. Panelists from all areas of web development discuss this and other possibilities for the future of the web.

Position Statement: Robert B. Lisek

We present a general criticism of WWW and some remarks about possible direction of WWW development, particularly we focus on the concept of the WWAI.

The WWW is one of the most popular forms of hypertext, but at the same time one of the worst. Lack of uniformity and integration: documents are treated separately, isolated from each other. Programs also arise from various sources, created as separate applications. One-way, unstable and unintelligent linking: fixed, one-way connections. Linking is a system of external tags without inference mechanisms.

There is no possibility of adding your own comments to the material you are accessing. Web presentations are totally controlled by their authors and by browsers.

Lack of ownership laws and micropayment: there is no copyright. Because there is no mechanism of micropayment, a best part of our knowledge is not to be found on the web.

The situation is indeed changing, thanks to the attempts of implementing some results from the domain called AI that creates a real heady mix (neural networks, formal logic, genetic programming, or statistical inference).

WWW is a natural space to experiment with these constructions. Today's attempts to create AI have limited scope, but let's imagine that WWW could be transformed in one

WWAI: a massively-parallel-wetware-oriented intelligence, consisting of structures and dynamics emergent from a community of intelligent software objects, distributed worldwide. This would indeed be a progressive process, in which we supercompile and improve our own cognitive functions.

Today we are at the stage where we've hooked up this AI constructions to a "simulated body" in WWW and started teaching it experimentally. In the future, WWAI will function as a nerve centre for the social superorganism, an emergent system formed by both humans and AI systems, joined together by the Internet and other cutting-edge communication technologies.

We would like to effect the following:

1. To set visibly main problems encountered by users of WWW and immanent limits of WWW structure (see above).
2. To discuss existing and potential solutions of relevant problems by using AI methods: Modern Logic in AI, Connectionism NN, Information Retrieval and Language Problems projects, Data Mining, Semantic Web, Most ambitious AI projects, Agents, Bots, Virtual Humans
3. To specify these AI-tools that may be most useful and applied universally in the future.
4. To debate social consequences of WWAI existence. Will WWAI actually function as a nerve centre for the social superorganism, an emergent system formed by both humans and AI systems, joined together by the Internet and other cutting-edge communication technologies?

Biographic Sketch: Robert B. Lisek

Robert B. Lisek is an artist, mathematician and a founder of FUNDAMENTAL RESEARCH LAB; he is involved in the number of projects focused on alternate art strategies and artificial intelligence. He is also a scientist at Department of Logic of Wroclaw University specialising in the theory of partially-ordered sets. His projects include among others: FLXTXT- Red Gate gallery & Panetary Collegium, Beijing, FLEXTEXT- CiberArt Bilbao Congres , Medi@terra - Byzantine Museum, Athens, RunMe-Moscow, FLEXTEXT - ACA Media festival,Tokyo {Jury Recomended Work/Interactive Art}; STACK - ISEA 02, Nagoya ; SSSPEAR -17th Meridian, WRO Center for Media Arts, Wroclaw; HAPPY NEW FEAR - FluxusOnline, New Horizonte; ODER- Medienturn - Graz, Kunstpalase - Dusseldorf, Fournose Center - Athens, and Graz, Paris, Tokyo, Palermo, Istambul.

Position Statement: Alessandro Ludovico

ubermorgen is interested and involved on two layers of this topic. The first layer involves the "natural" - or better said biological - aspect of the super-organism internet, the intelligence and specially the communications within it [memetics]. The second layer deals with the core nature of the organism itself and the bridging into traditional mass media networks: The human being and the machine in combination and the slow growth of interconnected intelligence into a new human-machine entity. We are able to document both layers with on-the-edge projects from our art practice [i.e. Voteauction].

Additionally to that, we are currently working on a research project dealing with the special question of mental illnesses within existing & growing networks. How can mentally ill human beings affect growing networks? How can human-machine networks such as the internet affect the mental health of connected human beings? The research program & art practice is currently running under the working title: PsychlOS [psych/operating system].

Our last lecture at the Medical University Vienna, Department of Artificial Intelligence was received very well. Students were keen on learning from our artistic & "freestyle" [non-systematic] research approach.

Biographic Sketch: Alessandro Ludovico

Alessandro Ludovico is a media critic and editor in chief of Neural magazine [http://english.neural.it] from 1993 (Honorary Mention, Net.Vision, Prix Ars Electronica 2004). He has written: 'Virtual Reality Handbook' (1992), 'Internet Underground.Guide' (1995), 'Suoni Futuri Digitali' (Future Digital Sounds, 2000). He's one of the founding contributor of the Nettime community and one of the founders of the 'Mag.Net (European Cultural Publishers)' organization. He writes for various international magazines and he's also an expert in the Runme.org board, a collaborator of the Digitalkraft exhibitions, and has curated different new media art exhibitions. Weekly he conducts 'Neural Station' a radio show on electronic music and digital culture and is part of the n.a.m.e. (normal audio media environment) group. From 2005 he's partner of Ubermorgen's GWEI.org action (Honorary Mention, Net.Vision, Prix Ars Electronica 2005 and Rhizome Commission 2005).

Position Statement: Jonah Brucker-Cohen

The Internet is a curious social beast in that it exists on several different levels: On one hand it provides access to communication channels between people on a global scale, while on the other it only allows for distinct types of correspondence that are funneled into specific conduits such as chat, email, bulletin boards, commercially mediated sites, voice over IP and online gaming. Rules for communication are in place around the Internet and are governed by the software, protocols, and tools that are readily available to people who use them on an everyday basis. In my work, I aim to create connections between people occupying both virtual and physical spaces by redefining current modes of representation and challenging the rules and conventions of traditional forms of online communication. I view these existing forms as a starting point for exploration since they require no steep learning curves for entry and play on people's perceptions of how web-based modes of communication should or could exist. To me, subtle alterations of existing communication forms can create striking possibilities for both building relationships between people themselves as well as connections between people and the physical spaces that websites may represent. I am interested in disrupting assumptions of online connectivity we perceive or take for granted through a critical approach that aims to shift the simple interactions and relationships we experience everyday into new forms of meaning and interaction. I will discuss several projects of mine that illustrate this such as Alerting Infrastructure! , a website hit counter that destroys a building), BumpList (an email community for the determined), Crank The Web (a physical mechanism for downloading a website), and Wifi-Hog (a tactical tool to liberate public WiFi nodes).

Biographic Sketch: Jonah Brucker-Cohen

Jonah Brucker-Cohen is a researcher, artist, and Ph.D. candidate in the Disruptive Design Team of the Networking and Telecommunications Research Group (NTRG), Trinity College Dublin. He is also an HEA researcher in the Human Connectedness Group at Media Lab Europe. He received a Masters from the Interactive Telecommunications Program at NYU and spent two years there as an Interval Research Fellow creating interactive networked projects. His work and thesis focuses on the theme of "Deconstructing Networks" which includes projects that attempt to critically challenge and subvert accepted perceptions of network interaction and experience. He is co-founder of the Dublin Art and Technology Association (DATA Group) and a recipient of the ARANEUM Prize sponsored by the Spanish Ministry of Art, Science and Technology and Fundacioin ARCO. His writing has appeared in numerous international publications including Wired Magazine and Rhizome.org and his work has been shown at events such as DEAF (03,04), UBICOMP (02,03,04), CHI (04) Transmediale (02,04), ISEA (02,04), Institute of Contemporary Art in London (04), Whitney Museum of American Art's ArtPort (03), Ars Electronica (02,04), and the ZKM Museum of Contemporary Art in Karlsruhe (04-5).

Position Statement: Martha Carrer Cruz Gabriel

Generally speaking, the web has been deaf and mute so far. However, this scenario is changing, and to talk to the web has become possible and easy due the enormous advances in speech synthesis and voice recognition technologies, and the open standards adopted by W3C (as VoiceXML), in the beginning of this century.

The potential of using voice interfaces widely on the web is explosive as it fulfills our old dream of talking with computers. From speech-only applications integrated to the whole web, to multi-modal applications combining aural and visual abilities into web browsers, voice interfaces add to the flavor of the web a fundamental spice, which is surely going to impact it.

Tim Berners-Lee said at SpeechTEK 2004, NY- "Speech technology is an important ingredient for the Web to realize its full potential". In fact, voice interfaces on the web bring undeniable resources for several areas, as convenience for mobile users, v-commerce, natural interactions, and usability. Nevertheless, adding voice and ears to the web surely alters its interactive and constitutive components as well, being it to add order or chaos, according to their use.

Beyond the more obvious utilizations for voice interfaces, the ability to talk to the web also provides an important way to improve web-accessibility — not only by multi-modal applications, but also through speech-only ones. Besides that, speech-only applications liberate users from any client computer device to access the internet — in this case, all they need is any telephone in any place in the world. This is the alliance of the widest computing network with the most pervasive communication device on Earth — internet & phone.

In this changing context, this discussion focuses on the impacts of voice interfaces on the web, adding new senses to its organism, thus modifying its intelligence and growth.

Biographic Sketch: Martha Carrer Cruz Gabriel

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Position Statement: Monika May

The World Wide Web is a social super-organism, with a mass of seemingly disconnected information on the surface. It mirrors humanity's consciousness and the universe as a whole. While still in its early development the Internet already manifests qualities of a highly organized cognizance.

The web is perhaps the mechanical nervous system of the noosphere. Quite possibly at humanity's current level of development devices like the Internet are necessary for consciousness to shift. In the future, the WWW may no longer be required for the transformation of the specie. However, at this time the Internet is an effective avenue for wetware to explore communication and growth in new ways. When humans and artificial intelligence interrelate in virtual environments it is intrinsically life altering. New methods of thinking and perception arise from play/work in cyberspace. This manifests in virtual environments where an Avatar can significantly affect it's wetware component in very visceral ways to create a new norm.

Since the Internet is still "young" it seems like a disorganized mess much like a pre-adolescent, who runs amuck. However, beneath the chaos an organized whole exists. This same pre-adolescent is processing billions of interactions and thereby is able to evolve to the next stage. So too, the Internet seems chaotic on the surface; however, beneath the turbulence a very orderly macrocosm exists. It can process billions of events simultaneously, for the most part getting the right intelligence to the right place at the right time.

The input of millions of wetware, hardware, software components, artificial intelligence, and the cosmos itself organizes the Web's infrastructure. The Internet is a reflection of humanity, which is ultimately a reflection of the universe. Therefore, the Internet is inherently a masterful social super-organism orchestrating it's own actualization, in tune with all that is.

Biographic Sketch: Monika May

Monika May is a digital artist, new media specialist, and teaches computer graphics at Colorado Technical University. Her first encounter with the Internet via the WELL in 1990 was profound, opening up new frontiers of communication possibilities. Since then she has worked/played extensively with the World Wide Web. An avid student of self-discovery, she has explored and practiced conscious evolution for over 20 years and integrates this intelligence to expand her creative expression. Highlights include:

- SIGGRAPH Traveling Art Show 2003-2005. "Out My Window", a 3D digital composition, is traveling around the world for 2 years as part of a 39-piece collection.

- SIGGRAPH Art Gallery 2003. Her 3D art works entitled, "Creeping Magnolia" and "Out My Window" exhibited in San Antonio, Texas.

- Top 100 Multimedia producers for 2001. A/V Video Multimedia Magazine. Non-entertainment media award, for developing/creating Internet streaming video for online training.

- Centra Paragon Award 2000. Best E-Commerce Product Training Application, MCI Customer Training Virtual Classroom.

- Gateway Course for Conscious Evolution (www.evolve.org) current participant.

- Website: www.digitalMAY.com