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*Philosophy is a game with objectives and no rules.
Mathematics is a game with rules and no objectives.*
-- anon

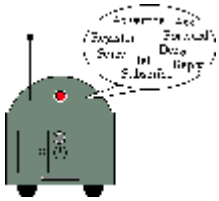
THIS ISSUE

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AGENT TECHNOLOGY

New KQML Software



Robin McEntire has announced a new release of the Lockheed/UMBC developed KQML APIs including a new API for Java. This implementation of KQML includes a software API for C and Lisp as well as a User's Manual and Design Document. The software is available at no cost for those interested by signing our Software License Agreement. This new release includes changes to the Logging facility in the agent, fixes for synchronizing messages and their replies when all threads are busy waiting, and other small changes. Questions should be directed to the KQML development team (kqml-help@paoli.atm.lmco.com).

Tubular Mobile agents



Dave Hall's notes two recent papers written with Jean Bacon and John Bates on their mobile agents work. Location-Oriented Multimedia IEEE Personal Communications, October 1997. The paper describes how the Tube mobile code system (written in Scheme and supporting Scheme mobile "agents") has been used to support mobile (multimedia) applications. Higher-Order Mobile Agents on the Java Virtual Machine This paper describes how higher-order mobile code can make the problem of to migrate transparently with a single function call. The have ported their own scheme-based higher-order mobile code system to run on the Java virtual machine, allowing them to take advantage of Java's ubiquity, while writing agents that have more obvious control flow and fewer side effects than their Java equivalents.

AGENTS STANDARDS

FIPA '97 Specifications

The Foundation for Intelligent Physical Agents (FIPA) met in Munich this October to complete the 1997 draft of their specifications. Preliminary versions for the seven specification documents are available as Microsoft word documents and will be published in their final form by 15 November 1997.

- [Agent management](#)
- [Agent to agent communication language](#)
- [Agent/software integration](#)

- [Personal travel assistance](#)
- [Personal assistant](#)
- [Audio-visual entertainment and broadcasting](#)
- [Network management and provisioning](#)

This specification is published as FIPA 97 ver. 1.0. FIPA members are undertaking field trials to validate FIPA 97. Feedbacks from members and non-members should be emailed fipa97@mlist.siemens.de. During 1998 FIPA will publish FIPA 97 ver. 2.0 that will incorporate whatever adaptations will be deemed necessary to take into account the results of field trials. The next FIPA meeting will be held in Palo Alto California January 26-30. Call for proposals for [FIPA 98](#) is available.

Knowledge Management Consortium

Ed Swanstrom (edswan@erols.com) has announced the formation of the [Knowledge Management Consortium](#) as a not-for-profit organization whose goal is to develop standards for "knowledge management" using the OMG as a model. The initial membership is PLATINUM Technology, Fujitsu/ICL, and Agilis Corporation as companies with interest expressed from individuals in a number of other companies. The initial group will be developing a draft of the charter over the next few weeks.

AGENT EVENTS

FOMAS'97

The Second UK Workshop on [Foundations of Multi-Agent Systems](#) will be held at the University of Warwick, 15--16 December 1997. The workshop will comprise invited talks, paper presentations and panel sessions over the course of two days.

Agents in Interaction - Competence through Imitation



[Agents in Interaction - Acquiring Competence through Imitation](#) will be a full-day workshop held Associated with Second International Conference on AUTONOMOUS AGENTS (Agents '98) in Minneapolis/St. Paul, on May 9, 1998 and organized by Kerstin Dautenhahn and Gillian Hayes. The workshop will focus on social learning and imitation as a means of one agent, software or embodied, learning an individual behaviour pattern or utterance from a member of the same or a different species and including it in its own behavioural repertoire. It is intended to attract people from different communities where social learning and imitation is involved, i.e. where agents learn from each other or their users through interaction.

Agents'98 Workshops



Four one-day workshops will be held in conjunction with the Second International Conference on AUTONOMOUS AGENTS ([Agents '98](#)) on May 9, 1998.

- [Agents in Interaction - Acquiring Competence Through Imitation](#)
- [Deception, Fraud and Trust in Agent Societies](#)
- [Workshop on Agent Mediated Electronic Trading \(AMET '98\)](#)
- [Artificial Societies and Computational Markets](#)

The Workshops are intended to provide opportunities for in-depth meetings and informal discussions about particular aspects of agents. Workshop papers are due on January 15, 1998. Direct general questions to the Workshop Chair: Professor Michael N. Huhns, Department of Electrical & Computer Engineering, 301 South Main Street, University of South Carolina, Columbia, SC 29208, (803) 777-5921, (803) 777-8045 FAX, huhns@sc.edu

Deception, Fraud and Trust in Agent Societies



Agents'98 workshop on Deception, Fraud and Trust in Agent Societies Minneapolis/St Paul, USA, May 9, 1998. The aim of the workshop is to bring together researchers that can contribute to a better understanding of trust and deception in agent societies. Most agent models assume secure and reliable communication to exist between agents. However, this ideal situation is seldom met in real life. Therefore, many techniques (e.g. contracts, signatures, long-term personnel relationships) have been evolved over time to detect and prevent deception and fraud in human communication, exchanges and relations, and hence to assure trust between agents. The authors must send by email the title page of their paper by January 15th with submissions sent electronically, as a postscript or MSword format file, by January 20th. For more information, contact Rino Falcone (falcone@pacs2.irmkant.rm.cnr.it).

Agent Mediated Electronic Trading

AMET'98 Workshop on Agent Mediated Electronic Trading, Minneapolis/St Paul, USA, May 9, 1998. This workshop is part of the 2nd International Conference on Autonomous Agents Agents'98. This workshop intends to set the scene for the assessment of the challenges that agent-based electronic commerce faces as well as the opportunities it creates. By focussing on agent mediated interactions we expect to bring together specialists from different disciplines who will contribute theoretical, methodological and application perspectives in the narrowly focused topic that nevertheless involves wide ranging concerns such as: agent architectures, institutionalization, economic-theoretic modelling, legal frameworks, policy guidelines. The deadline for paper submission is January 15, 1998.

From agent theory to agent implementation

From agent theory to agent implementation is a Symposium at the 14th European Meeting on Cybernetics and Systems Research (EMCSR '98), April 14-17, 1998, Vienna, Austria. Agent-based technology has made a fast inroad from highly specialized workshops on topics such as "situatedness" and "embeddedness" to mainstream textbooks. In the course of this development, it has also been driving the furthering of established notions and frameworks (e.g., the shift from "perfect rationality" to "bounded optimality" or the introduction of a "social level" above the "knowledge level") as well as favoring the intensification of interdisciplinary exchanges of ideas with as diverse fields as economics, control theory, evolutionary biology and ethology, or psychology and neurology, taking on "irrational" aspects of cognition in open worlds. The main objective of this symposium is to foster the exchange of ideas and experience among researchers working on theoretical and practical issues of agent technology, covering both the micro and macro aspects of agent design. The submission deadline is November 8, 1997

agent-oriented approaches to knowledge engineering



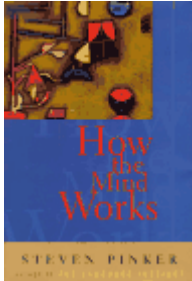
KAW'98 track on agent-oriented approaches to knowledge engineering 18-23 April, 1998, Voyager Inn, Banff, Alberta, Canada. In this workshop, comparable to the Agents workshop organized last year, the challenge with which the knowledge acquisition community is faced, namely to design modeling frameworks within which agents, and interaction between agents, can be adequately modeled, will be addressed. Papers should address one or more of the aspects mentioned above. For questions please contact Frances Brazier (frances@cs.vu.nl) or Jan Treur (treur@cs.vu.nl). Draft papers (up to 20 pages) should be sent electronically to Brian Gaines before Oct 31, 1998. Acceptance and revision notices will be e-mailed by Dec 31, 1998. Revised papers (20 pages) should be submitted by Feb 28, 1998, so that hardcopies may be bound together for distribution at the workshop. Authors who submit papers to the workshop will be expected to help with the refereeing of papers submitted by other individuals.

AGENTS IN PRINT

New Agents Journal

Kluwer is starting a new journal [Autonomous Agents & Multi-Agent Systems](#) which will be edited by Nicholas Jennings, Katia Sycara, and Michael Georgeff. To receive a sample copy send a request to , Kluwer Academic Publishers at (1) Order Dept., Box 358, Accord Station, Hingham, MA 02018-0358; or (2) P. O. Box 322, 3300 AH Dordrecht, The Netherlands.

How the Mind Works



[How the Mind Works](#), [Steven Pinker](#), Hardcover, 660 pages, W W Norton & Co, october 1997, ISBN: 0393045358. **Synopsis:** A fascinating, provocative book exploring the mysteries of human thought and behavior, [How the Mind Works](#) uses "reverse engineering"--determining what natural selection designed the mind to accomplish in a hunting-and-gathering environment--to explain how the mind stores and uses information. **NYT Book Review (Mark Ridley):** Pinker has breathed marvelous life into the computational models, the originals of which are buried in nerdish obscurity. He knows when to hold his readers' attention with an illustration or a joke. No other science writer makes me laugh so much.... He is a top-rate writer, and deserves the superlatives that are lavished on him.

Bots : The Origin of New Species



[Bots : The Origin of New Species](#), Andrew Leonard, Published by [Hardwired](#), July 1, 1997, ISBN: 1888869054. Is cyberspace the new primordial ooze in which out-of-control bots are mutating, multiplying, and engaging in a near-Darwinian struggle to survive? Where is this escalation heading? This is the first book written on the subject of bots. It is an in-depth investigation into a new reality of sky-rocketing complexity, dangerous malfunction, and masterful malice, drawing a powerful parallel between the biological and the digital evolution of species. here's a quote from J. D. Biersdorfer of The New York Times Book Review: "In his ingenious [Bots: The Origin of New Species](#), Leonard, a writer on technology, takes an in-depth look at the various little automated bits of indigenous computer code roaming the bandwidth of cyberspace, and at how these aptly named mailbots, chatterbots, spambots, searchbots and their kind affect the lives of Internet users every day.... Writing in a blend of English and cyberjargon, Leonard cleverly uses [Bots](#) as a vehicle to explore the psychology and anthropology of popular technology."

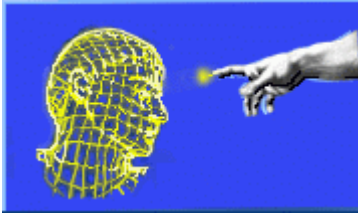
Learning User Interests through Heuristic Phrase Extraction



[The InfoFinder Agent: Learning User Interests through Heuristic Phrase Extraction](#), Bruce Krulwich and Chad Burkey, [IEEE Expert/Intelligent Systems & Their Applications](#), Vol. 12, No. 5, September/October 1997. InfoFinder is an intelligent agent that learns user information interests from sets of messages or other online documents that users have classified. While this problem has been addressed by a number of recent research initiatives, InfoFinder's approach is innovative in a number of ways. First, the agent uses heuristics to extract significant phrases from documents for learning rather than using statistical techniques. This enables it to learn highly general search criteria based on a small number of sample documents. Second, the agent's induction algorithms based on the observation that sample documents in such an application will not be uniformly distributed, because of the fact that users will tend to classify positive examples while browsing while classifying negative examples only when the agent makes a bad recommendation. Third, the agent learns standard decision trees for each user category. These decision trees are easily transformed into search query strings for standard search systems rather than requiring specialized search engines, and are significantly more expressive than other representations such as positive and negative word

lists.

Animated Interface Agents



Applied Artificial Intelligence will feature a special issue on Animated Interface Agents to be published in 1998. This call for papers is primarily directed at the authors of papers presented at the IJCAI-97 Workshop on Animated Interface Agents. However, other authors working in this area are also encouraged to contribute papers. Submitters should advise Elisabeth André (andre@dfki.de) of their intent to submit as soon as they can, but no later than December 1 1997. The deadline for the receipt of full papers is December 12 1997.

Readings in Agents



Readings in Agents Edited by Michael N. Huhns and Munindar P. Singh, Foreword by Les Gasser, October 1997, Morgan Kaufman, 520 pages; paper; ISBN 1-55860-495-2. "This important collection unifies the extensive recent literature on agent technology, presenting a wealth of the finest published papers on both theory and applications. Huhns and Singh have drawn on research communities in AI, databases, distributed computing, and programming languages to assemble the most comprehensive overview of the agent world available. The editors add a summary of the field and its terminology, history, and major issues, together with introductions to each of the thematic chapters and discussions of the significance and context of the individual papers."

Agent Technology Handbook

Agent Technology Handbook (McGraw-Hill Series on Computer Communications), by Dimitris N. Chorafas Paperback, 416 pages, McGraw Hill Text, June 1, 1997, ISBN: 0070119236. "The book particularly focuses on the applications of agents in telecommunications and computer communications, including network management with agents. Using a management orientation with scores of practical examples, Chorafas discusses architecture characteristics relevant to agents, how to build and use agents, and important aspects of KQML, and C++ Telescript. Crystal-clear chapters explore how to use agents to:

- Concurrently design software and hardware in a network
- Improve software functionality and time to market
- Help with mission-critical functions
- Improve service quality through rapid deployment of knowledge robots
- Enhance reliability and network diagnostics
- Solve the year 2000 problem

Coverage extends to handling the risks of man-made systems, fault tolerance, and the cost of network failures, as well as application of agents to the Internet and private Intranets."

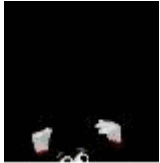
AGENT PRODUCTS

Dogz and Catz together



Andrew Stern of [PF.Magic](#) reports that their new virtual pets product, Petz II, allows the pets to interact. Dogz and Catz can now play with toys together, wrestle each other, chase, carry each other, tug-of-war, follow-the-leader, groom each other, etc. Petz can now form dramatic relationships with each other (e.g., enemies, buddies, parent-child nurturing, etc.) which develop over time as the pets age, influenced by how the user interacts and trains them. In general the expressiveness and richness of the characters' personalities has increased dramatically.

3D Assistants



Kevin Bromber reports the availability of [3D Assistant](#) (\$39.00) -- an animated intelligent agent that "lives" on your Windows 95 desktop floating directly over the Windows desktop and communicating with a voice and realistic gestures. Users can customize the assistant's look with the 3D Create authoring program which lets you select from a library of bodies and even lets you import an image for the face. You can type in what you want the assistant to say and then select a high quality motion to apply to the assistant. The characters are controlled by the 3DA Player (aka Boundless3D Character Engine) which is a real time 3D display engine for Windows platforms utilizing DirectX rendering. The engine integrates 3D Assistant characteristics (geometry, textures, motions, speech, and intelligence) with a open plug-in architecture to vary the functionality of the characters. The client side character engine can be controlled utilizing ActiveX, JavaScript, or VB script, creating dynamic interactive characters.

AGENT FUNDING

NSF's ITO Program

Les Gasser of NSF reports that the [Information Technology and Organizations \(ITO\) Program](#) supports research fundamental to understanding and developing computing and communications at organizational and social levels, and understanding the relationships between computation, information processing, and human social systems of all sizes and scales. Topics of research supported under this program include theory and models of organizational information/knowledge processing; networked information systems for scientific collaboration; multiagent systems/distributed artificial intelligence; coordinated work and decisionmaking; and impacts/policy implications of information technology. ITO is part of the Information, Robotics, and Intelligent Systems (IRIS) Division of NSF and will soon be renamed as the "Computation and Social Systems Program".

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