AAAI 2000

Spring Symposium Series

March 20-22, 2000
Stanford University, California

Registration

The American Association for Artificial Intelligence, in cooperation with Stanford University's Department of Computer Science, presents the 2000 Spring Symposium Series, to be held Monday through Wednesday, March 20-22, 2000, at Stanford University. The topics of the six symposia are:

- Adaptive User Interfaces
- Artificial Intelligence and Interactive Entertainment
- Bringing Knowledge to Business Processes
- My Dinner with R2D2: Natural Dialogues with Practical Robotic Devices
- Real Time Autonomous Systems
- Smart Graphics (in cooperation with Eurographics and ACM SIG-GRAPH)

The highlights of each symposium will be presented at a special plenary session. Working notes will be prepared and distributed to participants in each symposium, but will not otherwise be available unless published as an AAAI Technical Report or edited collection.

Each symposium will have limited attendance. Participants will be expected to attend a single symposium throughout the symposium series. In addition to participants selected by the program committee of the symposia, a limited number of other interested parties will be allowed to register in each symposium on a first-come, first-served basis. To register, please fill out the registration form, and send it along with payment to:

2000 Spring Symposium Series
AAAI, 445 Burgess Drive
Menlo Park, CA 94025
Telephone: (650) 328-3123*

Fax: (650) 321-4457*
E-mail: sss@aaai.org*

*Credit card orders only, please. Please note that there are security issues involved with the transmittal of credit card information over the internet. AAAI will not be held liable for any misuse of your credit card information during its transmittal to AAAI.

This document is also available at http://www.aaai.org/Symposia/Spring/2000/sssregistration-2000.pdf.

Tentative Program Schedule

(subject to change)

Monday, March 20
9:00 AM - 5:30 PM: Symposia sessions
6:00 PM - 7:00 PM: Reception

Tuesday, March 21
9:00 AM - 5:30 PM: Symposia sessions
6:00 PM - 7:00 PM: Plenary session

Wednesday, March 22
9:00 AM - 12:30 PM: Symposia sessions

Registration will be held on the Stanford University Campus in a location that will be announced at a later date.

Adaptive User Interfaces

As computers become more accessible, the problem of designing effective user interfaces becomes more severe. Many new users expect interacting with a computer to be as natural and intuitive as interacting with a person, but current interfaces are artificial and constraining. One particular weakness with most interfaces is their static nature. Programmers create these interfaces to interact identically with all users and for a range of tasks, without considering differences in knowledge, preferences, and purpose. At best, some interfaces allow limited customization by explicitly setting preferences and options.

A new cross-disciplinary approach has emerged in recent years from researchers in human-computer interaction, information extraction, machine learning, and other fields. In this approach, a system takes advantage of feedback from its user or the environment to adapt its performance. This adaptation can take a number of forms. Some examples include presenting different information to the user, altering the presentation order, changing the level of interaction, or describing information differently. Feedback is generally unobtrusive, with the goal of making the interface more effective without the burden of explicitly configuring the system. A popular approach is to model facets of the systemís functionality with parameters, such as a user, task, or world model. An adaptive component estimates parameter values from feedback, and a performance component uses these values to control the information presented.

The agenda includes presentations by researchers in domains such as e-commerce, intelligent tutoring, control systems, and dialogue. Many participants have complete working systems implementing all three major elements of interface adaptation: model representation, instantiating/updating the model, and changing system behavior to reflect the model. We expect a number of demonstrations to ground and focus our discussions throughout the symposium.

For more information, see www.isle.org/~aui.

Organizing Committee

Seth Rogers (Cochair), DaimlerChrysler Research and Technology Center North America; Wayne Iba (Cochair), Institute for the Study of Learning and Expertise; Mathias Bauer, German Research Center for Artificial Intelligence; Pat Langley, Stanford University (CSLI); Christopher A. Miller, Honeywell Technology Center

Artificial Intelligence and Interactive Entertainment

Computer games and computer entertainment software are a part of the vast frontier of interactive media that can take advantage of current AI technology. Current and near-future advances will push back the boundaries of computing power available to entertainment-related AIs. Meanwhile, the consumers of this media themselves are demanding smarter games and toys.

This symposium includes both traditional games (which tend to be centered on competition, linear exploration, and combat) and new entertainment architectures, such as shared interactive environments and robotic toys. Questions for this symposium include:

- How can we strengthen the burgeoning relationship between academia and industry we started in last year's Symposium on Artificial Intelligence and Computer Games?
- What are examples of entertainment AI problems? What are the parameters of research on which academia and industry can collaborate?
- What are the next steps in AI-related entertainment? What kinds of new, nontraditional AI applications will there be? What sorts of new technologies are on the horizon?
- How can we make humanlike characters seem more smart and aware, whether they be on-screen or robotic? What has succeeded in this regard for developers and academics? What is there left to do?
- Can we define basic tools that would allow the two groups to share code, algorithms, etc.? How can we develop programs at universities that cultivate the right sorts of talents? How can we transfer people along with technology?

This symposium is intended to bring together AI researchers and professionals from the entertainment software industry and academia. The program will emphasize dynamic discussion and interaction over lecture and include presentations of the latest products and research.

For more information, see www.cs.nwu.edu/~wolff/AIIE-2000.html

Organizing Committee

Wolff Dobson (Chair), Visual Concepts; Ken Forbus, Northwestern University; John Laird, University of Michigan; Ernest Adams, Electronic Arts; Ian Davis, Activision; Mike Van Lent, University of Michigan; Andrew Stern, PF Magic

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Bringing Knowledge to
Business Processes

Providing the right piece of knowledge to the right person(s) at the right time is a primary goal of knowledge management (KM). There exists a huge amount of work in the areas of business process management (BPM) and artificial intelligence that holds a high potential for contributing to this goal but has not much been considered so far. This symposium brings together researchers from the fields of AI, BPM, and KM that investigate intelligent computer support as well as user- and situation-specific adaptation in automated business processes.

The reviewed paper contributions tackle novel solutions that cross the boundaries of AI, KM, and BPM to enhance knowledge-intensive business processes. The approaches that will be presented cover a wide range of techniques and applications. Starting with the specification of processes and knowledge in workflow or agent modeling frameworks, contributions discuss techniques like case-based reasoning, ontologies, or petri-nets applied to various studies of real-world cases. The symposium will strongly be focused on short presentations and ample time for discussion in order to give room for exploring the applicability of these wide range of techniques in their various settings.

In addition, the symposium will feature an invited talk. A panel will focus on how innovative techniques presented in the workshop may find their application in real world business settings.

For more information see www.aifb.uni-karlsruhe.de/~sst/Research/Events/sss00/ or send email to Steffen Staab, sst@aifb.uni-karlsruhe.de

Organizing Committee

Dan O'Leary (Cochair), USC, USA; Steffen Staab (Cochair), Karlsruhe University, Germany; Ann Macintosh, Napier University, UK; Leora Morgenstern, IBM T.J. Watson Research, USA; Mark Musen, Stanford University, USA; Ulrich Reimer, Swiss Life, Switzerland; Wil van der Aalst, Eindhoven University of Technology, The Netherlands

My Dinner with R2D2: Natural Dialogues with Practical Robotic Devices

The Star Wars robot R2D2 is capable of complex locomotion, navigation, command and control of other devices (such as fighter jets), and efficient communication with other devices such as C3P0. It responds well to commands issued by humans, and is even capable of emotional states (it screams when the ship is in immediate peril), but with all its internal computing power R2D2 is weak in the area of real dialogue interaction with humans. How would you redesign this little droid to make it a companion you would want to have on board your space ship? If robots in general are hardware agents with varying combinations of reactivity, autonomy, mobility, and sensory processing, then are there robotic applications for which spoken dialogue can be of benefit? If so, what defines this class of applications and how can dialogue help?

From the international space station to assistive devices for people with disabilities, from VCRs to toys, semiautonomous robots make some decisions but are subject to dynamic input from a human to micromanage the robot's behavior in real time. We will explore ways in which conversing with a physically embedded agent differs from tasking a virtual (software) agent. Can the physical instantiation of the device, with access to sensory information and the ability to modify the physical environment make dialogue easier in any way? What role should gestures and deictic references play in the dialogue interaction and how are they integrated with speech?

This workshop will gather researchers from robotics, natural language processing, dialog management and other related fields to explore how these technologies can be merged. Specific applications will be brought up as exemplars where speech is not just a good idea, it's a necessity. There will be formal presentations and panels, but also lots of time for dialog.

Organizing Committee

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David Miller (Cochair), KISS Institute for Practical Robotics; Pete Bonasso, NASA; David Duff, IET, Inc; Lynette Hirschberg, MITRE; Ian Horswill, Northwestern University; Paul Martin, Sun Microsystems; Polly Pook, ISR; Bonnie Webber, University of Edinburgh; Barry Werger, USC.

Real-Time Autonomous Systems

Autonomous systems controlling mobile vehicles, spacecraft, refineries, and other major application domains face inflexible real-time deadlines. If they fail to meet those deadlines, catastrophic consequences can result: lost lives, environmental damage, millions or billions of dollars up in smoke or down the drain.

This symposium will explore the issues and approaches involved in applying AI and autonomous control techniques to hard real-time application domains. We expect participation from both the AI and autonomous systems community and the real-time systems community, as well as application and/or domain developers. Paper presentations and discussions will focus on the specific impact of real-time concerns on practical and theoretical systems. Paper topics include real-time autonomous control of space systems, multi-agent applications with real-time characteristics, autonomous robotics, planning with time, time-bounded AI/search/planning techniques, anytime algorithms, design-to-time algorithms, and model checking for real-time systems.

The symposium will be deliberately scheduled to provide extensive discussion time and group interactions. The symposium will consist of a series of medium length paper presentations (20-30 minutes) with significant Q&A time following each paper, as well as two topic-oriented group discussion sessions and two or more poster/discussion sessions.

Organizing Committee

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Edmund H. Durfee, University of Michigan; Kang G. Shin, University of Michigan; Victor Lesser, University of Massachusetts; Shlomo Zilberstein, University of Massachusetts

Smart Graphics

(Held in cooperation with Eurographics and ACM SIGGRAPH)
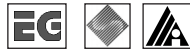
Both graphics and intelligent behavior are core ingredients of future user interfaces. Within the AI community there is a vision of an intelligent interface, with advanced communication capabilities, that is flexible and expressive enough to accommodate a broad variety of different users with varying needs and preferences.

Smart Graphics is the interdisciplinary approach to the generation, presentation and interaction with 2D and 3D graphical interfaces in a manner that is sensitive to technological, computational and cognitive constraints. Such interfaces aim to move beyond the current requirement that designers anticipate every data, task and technological scenario, and instead allow the dynamic generation and presentation of content in such a manner that: (1) engages the user and is aesthetically satisfying; (2) takes account of cognitive insights as to the use of external representations thereby minimizing potential for imprecision and ambiguity; (3) is sensitive to the real-time demands of the task in the context of the available computational resources; and (4) adapts the form of the output according to constraints placed on the presentation by the nature of the target media and available interaction devices.

Smart Graphics research can be loosely divided into principles, methods and systems based research, and the symposium will address all these areas.

The symposium will attempt to both consolidate the results of existing research and raise awareness as to the many methods that are the dowry of AI when building smart graphical interfaces. Furthermore, success of the Smart Graphics enterprise relies on the combination of insights from graphic design, human-computer interaction, cognitive science, graphics and artificial intelligence, and it is an aim of the symposium to foster a multidisciplinary dialogue between these communities.

For more information see www-users.cs.york.ac.uk/~patrick/SG2000/

Organizing Committee

Andreas Butz (Cochair), Universität des Saarlandes; Antonio Krueger (Cochair), Universität des Saarlandes; Patrick Olivier (Cochair), University of York; Barbara Hayes-Roth Stanford, USA; James Lester, NCSU, USA; Barbara Tversky, Stanford, USA; Mike Scaife, Sussex, UK; John Maeda, MIT, USA; W. Bradford Paley, Digital Image Design, USA; Steve Feiner, Columbia, USA; Joe Marks, MERL, USA

Registration and General Information

ALL ATTENDEES MUST PREREGIS-TER. Each symposium has a limited attendance, with priority given to invited attendees. All accepted authors, symposium participants, and other invited attendees must register by February 11, 2000. After that period, registration will be opened up to the general membership of AAAI and other interested parties. All registrations must be post-marked by February 25, 2000.

Your registration fee covers your attendance at the symposium, a copy of the working notes for your symposium, and the reception.

Checks (drawn on a US bank) or international money orders should be made out to AAAI. VISA, Master-Card and American Express are also accepted. Please fill out the at-tached registration form and mail it with your fee to:

AAAI 2000 Spring Symposium Series
445 Burgess Drive
Menlo Park, CA 94025

If you are paying by credit card, you may e-mail the form to sss@aaai.org or fax it to 650-321-4457. Registration forms are also available on AAAI's web page: www.aaai.org/Symposia/Spring/spring-regform.html or spring-regform.pdf.

Please note: **All refund requests must be in writing and post-marked by March 3, 2000.** No re-funds will be granted after this date. A $25.00 processing fee will be levied on all refunds granted.

When you arrive at Stanford, please pick up your complete registration packet from the AAAI registration area. The location will be announced on the AAAI web site in January.

Registration hours will be:

Monday, March 20
8:00 AM - 5:00 PM

Tuesday, March 21
8:30 AM - 5:00 PM

Wednesday, March 22
8:45 AM - 12:00 PM

Please call AAAI at 650-328-3123 for further information.

Parking

Parking will be available on the Stanford Campus from March 20-22 for a total of $6.00 for all three days. An application for a parking permit is included on the attached registration form. The permits will be mailed to you with your registration receipt, along with a map and directions to the assigned parking areas. Please note that parking permits are valid only in designated areas. You will need to take the campus shuttle (Marguerite) to the Spring Symposium registration area and sessions. Please allow an extra thirty minutes travel time in your schedule for the shuttle.

Accommodations

For your convenience, AAAI has reserved a block of rooms at the hotels listed below. Symposium attendees must contact the hotels directly. Please identify yourself as an AAAI Spring Symposium Series attendee to qualify for the reduced rates.

Best Western Riviera
    15 El Camino Real
    Menlo Park, CA 94025
    Phone: 650-321-8772
    Fax: 650-321-2137
    Marguerite shuttle nearby
    Rates: $139 (S) or (D)
    Reserve before February 10, 2000

Creekside Inn
    3400 El Camino Real
    Palo Alto, CA 94306
    Phone: 650-493-2411 or 800-492-7335
    Fax: 650-852-9500
    Marguerite shuttle pick-up: 0.5 mile
    Rates: $139-$159 (S) or (D)
    Reserve before February 19, 2000

Sheraton Palo Alto
    625 El Camino Real
    Palo Alto, CA 94301
    Phone: 650-328-2800 or 800-874-3516
    Fax: 650-327-7362
    Marguerite shuttle stop nearby
    Rate: $169 (S) or (D)
    Reserve before February 20, 2000

Stanford Terrace Inn
    531 Stanford Ave
    Palo Alto, CA 94306
    Phone: 650-857-0333 or 800-729-0332
    Fax: 650-857-0343
    Stanford Terrace Shuttle available with advance notice. Marguerite Marguerite shuttle stop nearby
    Rates: $135 (S), $145 (D)
    Reserve before February 19, 2000

Other Hotels

(Available only on a first-come, first served basis; all prices are subject to change without notice).

The Cardinal Hotel
    235 Hamilton Avenue
    Palo Alto, CA 94301
    Phone: 650-323-5101
    Fax: 650-325-6086
    Marguerite shuttle stop nearby
    Rates: $115 (S) or (D); $125 (S) or (D) Deluxe (includes microwave and refrigerator)

Hotel California
    2431 Ash Street
    Palo Alto, CA 94306
    Phone: 650-322-7666
    Fax: 650-321-7358
    Marguerite shuttle stop nearby
    Rates: $70-$85 (S) or (D)

Mermaid Inn
    727 El Camino Real
    Menlo Park, CA 94025
    Phone: 650-323-9481
    Fax: 650-323-0662
    Rates: $58 (S), $68 (D)

Air Transportation & Car Rental

AAAI has selected Conventions in America (CIA) as its official travel agency in 2000. Call 1-800-929-4242 and ask for Group #428, or visit www.stellaraccess.com, register if you are a first-time user, and refer to Group 428. You will receive the following discounts or the lowest available fares on any other carrier: American Airlines—save 5% - 10% off the lowest applicable fares; take an additional 5% off with a minimum sixty-day advance purchase. Offer good for travel between March 15–27, 2000. *Alamo Rent-a-Car* special rates start as low as $38.00 per day or $165.00 per week with unlimited free mileage.

Reservation hours: M-F 6:30 AM – 5:00 PM PDT. Outside U.S. and Canada, call 619-232-4298 / Fax 619-232-6497. E-mail: flycia@scitravel.com. All customers of CIA also receive $100,000 in free flight insurance. If you call direct or use your own agency, refer to these codes:

American   800-433-1790, Index # 12396

Alamo	800-732-3232, ID #409268 GR

Disclaimer

In offering American Airlines, Alamo Rent-A-Car, the Best Western Riviera, the Creekside Inn (Best Western), The Sheraton Palo Alto, the Stanford Terrace Inn, and the Marguerite shuttle (hereinafter referred to as "Suppliers") and all other service providers for the AAAI Spring Symposium Series, the American Association for Artificial Intelligence acts only in the capacity of agent for the Suppliers, which are the providers of hotel rooms and transportation. Because the American Association for Artificial Intelligence has no control over the personnel, equipment, or operations of providers of accommodations or other services included as part of the Symposium program, AAAI assumes no responsibility for and will not be liable for any personal delay, inconveniences, or other damage suffered by symposium participants which may arise by reason of (1) any wrongful or negligent acts or omissions on the part of any Supplier or its employees, (2) any defect in or failure of any vehicle, equipment, or instrumentality owned, operated, or otherwise used by any Supplier, or (3) any wrongful or negligent acts or omissions on the part of any other party not under the control, direct or otherwise, of AAAI.

Ground Transportation

This information is the best available at time of printing. Fares and routes change frequently. Please check by telephoning the appropriate numbers below for the most up-to-date information.

South Bay Shuttle

Van service from San Francisco International Airport is $18.00 for one person, one way. The fare from San Jose Airport to Palo Alto is $19.00 per person one way. Cash or checks only. For reservations call 408-559-9477 or 800-548-4664.

Supershuttle

24 hour van service to and from San Francisco International Airport to Palo Alto. The fare is $23.00 per person one way. Cash or major credit cards only. For reservations call 415-558-8500 or 800-258-3826 (outside California). Reservations can also be made at www.supershuttle.com.

Airport Connection

Van service is $49.00 for one person one way from San Francisco International Airport to Palo Alto. The fare from San Jose Airport to Palo Alto is $64.00. Cash, major credit cards, or checks accepted. Call 888-990-5466 for reservations. White courtesy telephone available at San Francisco International Airport.

Stanford Shuttle

The Stanford University Marguerite Shuttle Bus service provides service from several points along El Camino Real, the train station, and other surrounding locations to the Stanford Oval as well as transportation around the Stanford Campus.

Train

CalTrain runs between San Francisco and the Palo Alto station starting at 5:15 AM. The last train leaves San Francisco at 10:00 PM (weekdays), 12:00 midnight (Friday and Saturday nights). The fare is $8.00 round trip for same-day travel, or $4.00 one way. For up-to-date fare information and time tables, call toll free 800-660-4287.

Registration Form—2000 AAAI Spring Symposium Series

ALL ATTENDEES MUST PREREGISTER
Please complete in full and return to AAAI, postmarked by February 11, 2000 (invited attendees), or by February 25, 2000 (general registration).
Please print or type—incomplete or illegible forms cannot be processed.

FIRST NAME _____ LAST NAME _____

COMPANY OR AFFILIATION _____

ADDRESS: _____ HOME ☐ OR BUSINESS ☐

_____

CITY _____ STATE _____

ZIP OR POSTAL CODE _____ COUNTRY _____

DAYTIME TELEPHONE _____ E-MAIL _____

Symposium

(Please check only one)
☐ 1. Adaptive User Interfaces
☐ 2. Artificial Intelligence and Interactive Entertainment
☐ 3. Bringing Knowledge to Business Processes
☐ 4. My Dinner with R2D2: Natural Dialogues with Practical Robotic Devices
☐ 5. Real-Time Autonomous Systems
☐ 6. Smart Graphics (*please note:* members of Eurographics or ACM SIGGRAPH may register at the AAAI member rate for this symposium only by supplying their membership number: _____)

Fee

☐ Member: $ 220.00   ☐ Nonmember: $ 280.00
☐ Student Member: $ 100.00 ☐ Student nonmember: $ 125.00
  (students must send legible proof of full-time student status)
☐ Temporary Stanford University parking permit, March 20–22 ($6.00)

TOTAL FEE *(Please enter correct amount)* $_____

Method of Payment *(please circle one)*

(All e-mail and fax registrations must be accompanied by credit card information. **Prepayment is required. No PO's will be accepted.**)

Check   MasterCard   VISA   American Express

Credit card account number _____

Expiration date _____

Name (as it appears on card) _____

Signature _____

Please mail or fax completed form with your payment to

AAAI, SSS–2000 • 445 Burgess Drive • Menlo Park, California 94025 • 650-321-4457

Please Note: Requests for refunds must be received *in writing* by March 3, 2000
A $25.00 processing fee will be levied on all refunds granted. *Thank you for your registration!*

For Office Use Only

Check Number _____ Amount _____ Received _____