

European Network for the Advancement of Artificial Cognitive Systems

Project IST-026408



Instrument: Coordination Action Thematic Priority: IST – Cognitive Systems

Second Periodic Activity Report

Months 13-24

Period covered from 01/01/2007 to 31/12/2007

Start date of project: 01/01/2006

Project coordinator: David Vernon

Project coordinator organization name:

Date of preparation: 18/03/2008

Duration: 36 months

University of Genova DIST – LIRA-Lab

Revision: 1.0

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Executive Summary

Project Summary

The principal goal of the euCognition network is to advance the emerging area of artificial cognitive systems by fostering inter-disciplinary interaction, spanning a greater spectrum of people, perspectives, and applications than is possible in a single R&D project. It aims to leverage added value from existing work through interaction and to use this to encourage further contributions from new participants. A key objective of the network is to foster interaction between all the many different scientific sectors involved in this multi-disciplinary area and to help create truly inter-disciplinary perspectives.

The activities of the network cover four key concerns:

- (a) Outreach
- (b) Scientific Outlook
- (c) Education
- (d) On-line Resources for the Community

euCognition strives to support the research community that is already involved in FP6 projects in cognitive systems and to help other individuals from research institutes and companies become involved in this initiative. This is achieved by facilitating interaction between projects and collaboration between individuals on a variety of fronts, ranging from workshops, conferences, courses, exchanges of staff and students, development & dissemination of training material, access to development platforms, research planning, and the creation of an extensive dynamic web-based repository of resources for the greater community.

Summary of Work Performed

The following are a selection of highlights of the results achieved by the network over the past year.

- 1. Membership outstripped targets: 262 by year end (the target for 3 years was 120).
- 2. 2nd Six-monthly meeting, Munich, January 2007.
- 3. 3rd Six-monthly meeting, Munich, June 2007.
- 4. Approval of 26 new Network Actions, giving a total of 55.
- 5. Launch of the designated Official euCognition Event programme.
- 6. Creation of 22 Cognition Briefing, giving a total of 29.
- 7. Significantly increased number of hits on euCognition website and wiki.

Section 1 – Project objectives and major achievements during the reporting period

Objectives and Achievements for the Current Period

Our principal goals for the second year of operation of the network were:

- 1. Develop euCognition website resources
- 2. Organize two six-monthly meetings
- 3. Launch initiatives to encourage the involvement of members
- 4. Grow the membership, with a focus on seeking new members from diverse backgrounds and especially seeking to involve those who have not been involved so far in CogSys-funded projects.
- 5. Develop an initiative to create a euCognition Research Roadmap.

As will be evident from the following, most these objectives have been met.

Membership has grown beyond our expectations. We originally planned on having 120 members by the end of the three-year contract period. This number was passed after just six months and there were over 260 members by the end of 2007 (see <u>http://www.eucognition.org/members.htm</u>). Significantly, more than 60% of the members are not involved in CogSys-funded projects, up from 50% in 2006. Members are drawn from a wide variety of research background. 58 of the members are students.

Both the 2nd and 3rd six-monthly meetings in Munich were well-attended, typically with between 90 and 100 attendees on average.

The network action programme is proving increasingly popular and 29 actions were approved in 2007 with a total value of \notin 220k, compared with 26 actions and \notin 102k in 2006. Of the total of 55 actions, 19 fall under the heading of Outreach, 28 under the heading of Scientific Outlook, and 8 under the heading of Education.

In addition, a new initiative to support designated official euCognition events was launched.

The website and an associated wiki are operational; statistics on access to each page are provided but it is noteworthy that the top 10 website resources are receiving between 1700 and 4900 hits per year while the top 10 Wiki pages are receiving between 400 and 2200 hits per year.

The number of Cognition Briefings, accessible introductions to particular topics in cognitive systems, have grown considerably from 7 in 2006 to 29 in 2007.

After considerable effort trying to move the euCognition Roadmap forward, it was finally acknowledged that the challenge of creating a research roadmap was much greater than had first been thought, in terms of scope, complexity, and the effort required to complete it. Consequently, in March 2007 it was decided to re-scope it and an alternative plan – dubbed the Learning Journey - was adopted. To boot-strap this process, members of the Executive Committee volunteered to organize a series of workshops over the remaining period of the project.

Section 2 – Workpackage progress of the period

Before proceeding to walk through the progress that has been achieved in each work-package towards the respective deliverables, it is worth remarking that the deliverables of the euCognition project are unusual in that they are not itemized products but are rather the components of the euCognition website, populated by the outcomes of network actions. The website therefore plays a pivotal role in euCognition as it is the primary means by with the activities of the network are documented and assessed. We return to this issue under WP 4 – On-line Resources.

Network actions are the primary mechanism by which members of the network can receive modest funding for relevant tasks that contribute to the work of the network. These tasks cannot involve research (since this is prohibited by a Coordination Action contract) but can facilitate the creation of educational material, visits by staff and students, workshops, and making research resources available to members. A more complete list of the type of actions anticipated is available on the website here

http://www.eucognition.org/network_actions.htm

In 2006, twenty-nine network action proposals were submitted to the Executive Committee for consideration. Of these, twenty-six were supported and subsequently approved by the Commission. Three were declined. The total budget of those supported was €102770.

In 2007, thirty-five proposal were submitted, twenty-nine were supported and approved. Six were declined. The total budget of those supported was ≤ 220796 , over double that of the first year even though the number of actions in the two years is similar. The increase in cost is due to the fact that four of the actions were much larger than usual. These are:

| Network Action | Proposer | Budget |
|-----------------------------------------------------------|--------------------|--------|
| NA 012-1 ACM/IEEE Human-Robot Interaction Conference 2008 | Matthias Scheutz | 17000 |
| NA 044-3 Book and Webpage | Joanna Bryson | 39000 |
| NA 044-4 Curriculum | Joanna Bryson | 22000 |
| NA 161-1 The 7th Int. Conf. on Epigenetic Robotics | Christopher Prince | 12000 |

The full set of network actions supported for years 2006 and 20078 are set out overleaf.

euCognition Network Actions 2006

| Accepted | |
|----------|--|
| noooptou | |

NA 002-1 Student Support for the Inaugural Meeting Fred Cummins NA 004-1 Student Visit to the SCAI Lab, University of Skövde Tom Ziemke NA 004-2 Student Visit to the SCAI Lab, University of Skövde Tom Ziemke NA 007-1 Application and research roadmap for artificial cognitive systems **Bill Sharpe** NA 010-1 Workshop on Information Theory, Neurobiology and Cognition Juergen Jost NA 011-1 5th European Neuro-IT and Neuroengineering School Andreas Engel NA 017-1 Symposium on Grand Challenge: Architecture of Brain and Mind Aaron Sloman NA 026-1 Workshop on Abstraction and Context in Cognitive Systems Walter Kropatsch NA 028-1 9th International Conference on the Simulation of Adaptive Behavior Jean-Arcady Meyer NA 044-1 Action Selection for Intelligent Systems Joanna Bryson NA 047-1 Summer School on Humanoid Robots Giorgio Metta NA 050-1 Workshop on Embodying Cognition Antoni Gomila NA 062-1 Staff Visit to University of Rome 'La Sapienza' Barbara Caputo NA 066-1 CD Proceedings of ABiALS 2006 Gianluca Baldassarre NA 068-1 Neurophysiology and Psychophysics material for CVOnline **Robert Fisher** NA 068-2 Optically scan five cognitive vision books for CVOnline **Robert Fisher** NA 089-1 Workshop on Attention in Cognitive Systems - WAPCV 2007 Lucas Paletta NA 092-1 6th Czech-Slovak workshop on Cognition and Artificial Life Jiri Wiedermann NA 097-1 External Symbol Grounding Workshop 2006 (ESG2006) Angelo Cangelosi NA 097-2 Student visit to the University of Genoa Angelo Cangelosi NA 105-1 Connect with AI: cognitive robot education outreach initiative Sethu Vijayakumar NA 108-1 Staff Visit to the University of Genoa Cecilio Angulo NA 126-1 Workshop on Modelling Cognitive and Biological Autonomy Alvaro Morena NA 133-1 Student Visit to the Max Planck Institute, Leipzig Stefano Nolfi NA 141-1 Symposium on Imitation in Animals and Artifacts Manuel Lopes NA 178-1 International Conference on Development and Learning 2007 **Yiannis Dimiris Overall Total**

Declined

NA024-1 Scan Paths NA068-3 Pattern Recognition Materials NA113-1 Website Tools Stavri Nikolov Robert Fisher Sabine Ploux

Proposer

Budget

8000

5900

6875

10000

3000

10025

10610

5000

1150

2790

2000

1000

700

4000

4000

3000

4800

4300

3120

1500

4100

2700

4200

102770

0

0

0

euCognition Network Actions 2007

| Accepted | Proposer | Budget |
|---------------------------------------------------------------------------|---------------------|--------|
| NA 004-3 Student Visit to University of Skovde | Tom Ziemke | 5250 |
| NA 009-1 Staff Visit | Peter Ford Dominey | 600 |
| NA 012-1 ACM/IEEE Human-Robot Interaction Conference 2008 | Matthias Scheutz | 17000 |
| NA 023-1 Workshop on object categorization | Ales Leonardis | 4000 |
| NA 024-2 Scan Paths: Eye Movement Data Sets | Stavri Nikolov | 3740 |
| NA 030-1 Student Visit to University of Tokyo | Giulio Sandini | 4800 |
| NA 032-1 ICVS 07 | Antonios Gasteratos | 4350 |
| NA 044-3 Book and Webpage | Joanna Bryson | 39000 |
| NA 044-4 Curriculum | Joanna Bryson | 22000 |
| NA 062-2 Staff visit to IDIAP | Barbara Caputo | 7280 |
| NA 068-4 Collection of educational materials for machine learning | Robert Fisher | 5250 |
| NA 083-1 Staff Visit | Carlos Herrera | 1800 |
| NA 089-1 Workshop on Attention in Cognitive Systems – WAPCV 2007 | Lucas Paletta | 2800 |
| NA 094-1 Cognitive robotics: from laboratory to media | Catalin Buiu | 2700 |
| NA 097-2 Student visit to the University of Genoa | Angelo Cangelosi | 4300 |
| NA 097-3 Student visit to the University of Plymouth | Angelo Cangelosi | 5300 |
| NA 097-4 Student visit to the University of Genoa | Angelo Cangelosi | 3200 |
| NA 098-1 Symposium on Language and Robots 2007 | Tony Belpaeme | 3100 |
| NA 119-1 Staff Visit to the University of York | Giovanni Pezzulo | 4400 |
| NA 130-1 Workshop on Models of Thought | Brendan Wallace | 2474 |
| NA 149-1 Student Visit to University of Oxford | Pau Baiget | 1800 |
| NA 161-1 The 7th Int. Conf. on Epigenetic Robotics | Christopher Prince | 12000 |
| NA 173-1 Naturalized Epistemology Workshop | Marcin Milkowski | 2000 |
| NA 177-1 Int. Conference on Affective Computing & Intelligent Interaction | Lola Canamero | 6000 |
| NA 179-1 Workshop on natural and artificial intelligence | Alex Kacelnik | 9400 |
| NA 193-1 Workshop on social learning in embodied agents | Davide Marocco | 2600 |
| NA 205-1 Workshop on Dynamical Approaches to Development | Rachel Wood | 8652 |
| NA 217-1 Workshop on Enactive Approaches to Social Cognition | Steve Torrance | 17000 |
| NA 225-1 Industry Forum | Erich Rome | 18000 |
| | Overall Total | 220796 |
| | | |

Declined

| NA 066-2 Humanoid Robot | Gia |
|--------------------------------------------------------------------------|-----|
| NA 045-1 Presentation to PPSRC | Pat |
| NA 190-1 Czech and Slovak Cognitive Web Portal | Rad |
| NA 183-1 Workshop on Analogies: Integrating Multiple Cognitive Abilities | Ang |
| NA 045-2 Workshop on Benchmarks | Pat |
| NA 044-2 euCognition Outreach through Book and HE Curriculum | Joa |
| | |

Gianluca Baldassarre Patrick Courtney Radovan Sikl Angela Schwering Patrick Courtney Ioanna Bryson Details of all funded actions and their outcomes can be found on the website at

http://www.eucognition.org/network_actions_funded.htm

These 55 deliverables contribute in varying amounts to the three activities of Outreach, Scientific Outlook, and Education. In the work-package reports below, these actions are assigned to the activity to which they contributed most.

WP1 - Outreach

Workpackage objectives

The Outreach activity embraces both inter-project collaboration and the involvement of new blood from academia and industry. It includes initiatives for bi-lateral exchanges, particularly focusing on individuals, institutes, and companies that are not yet directly involved with funded projects, and providing where necessary the resources for new pilot initiatives (e.g. providing access to platforms for experimental work in embodied cognition).

Progress towards objectives

Membership

The membership of euCognition has grown steadily throughout 2007. By the end of 2006, it had exceeded 180 members, sixty more than the original 3-year target. By the end of 2007, there were 262 members, over double the 3-year target. It is now likely that we will achieve triple the original target by the end of the project.

At the end of 2006, 39 of the members were student members. At the end of 2007, 58 of the members were students.

61% of the members) are not associated with an on-going Cognitive Systems project, a small increase of the percentage of 50% in 2006. This clearly demonstrates that we have succeeded well so far in our efforts to involve new people in the community.

The full list of members and their contact details can be found on the website at:

http://www.eucognition.org/members.htm

A list of the research areas cited by members in their membership applications can be found on the website at:

http://www.eucognition.org/members_research_areas.htm

Over 270 distinct areas are cited. Although there is some overlap among many of the areas, this list nevertheless shows the true diversity of euCognition members.

Cognition Briefings

Last year, a special initiative was launched to create a new resource for the community in an effort to help bridge the gap between the many disparate communities involved in the cognitive systems research and in the process to reach out to a broader audience. This resource takes the form of the euCognition Cognition Briefings, short articles written for a non-specialist audience. They aim to provide a quick and accessible introduction to a particular topic in cognitive systems with references or links for further reading. They are inspired by the <u>Brain Briefings</u> of the American Society for Neuroscience.

At the end of 2006, members have contributed only seven briefings. By the end of 2007, there were 29 briefings (see below). There are three reasons for this increase. First, at the end of the year it was decided that every new Network Action should contribute at least one briefing to the wiki on the topic of the action. Second, Fred Cummins in his capacity as responsible for Outreach pursued a campaign to solicit briefings from each member individually. Third, it was made a condition that any member claiming travel expenses to attend an official euCognition event must contribute a briefing.

| Affordances: The review of an inspiring notion |
|--------------------------------------------------------------------------------------------------------|
| Autonomy and Cognition |
| Automatic and Willed Control of Action |
| Bayesian Multisensory Perception (pdf) |
| Bayesian Probabilistic Learning in Robots |
| Biomimetic Robotics |
| CoEvolutionary Approaches in Cognitive Robotic System Design |
| Cognitive Architectures |
| Computationalism |
| Distributed Intelligence for Smart Assistive Appliances |
| Eyes-Neck motor coordination through coupled chaotic systems |
| Facial Motion Analysis for Human Expression Interpretation |
| From Image Sequences to Natural-Language Texts |
| How can robots help us to understand biological systems? A look at odor localization in the male moth. |
| Human Behavior Interpretation from Image Sequences |
| Learning and Memory in Neural Networks |
| Modelling cultural transmission and evolution: some references |
| Naturalized Epistemology and Artificial Cognitive Systems |
| Schemas and Schema-based Architectures |
| Simulating Speech Production and Speech Acquisition |
| Simulating the Evolution of Language with Cognitive Agents and Robots |
| Social Learning in Embodied Agents |
| Some Considerations on Spatial Relations |
| Symbol Grounding in Cognitive Systems |
| Symbol Tethering: The myth of symbol grounding |
| Subsumption |
| Tactile sensing in robots |
| What is Cognition? One View of Cognitive Systems |
| Working Memory |

The Cognition Briefings can be found on the euCognition wiki here

http://www.eucognition.org/wiki/index.php?title=Cognition_Briefings

Network Actions

In total, 19 actions have been funded under the heading of Outreach in 2006 and 2007. Most of these were for student visits and staff visits to help build link between labs. NA 044-3 is large outreach action focusing on resources to inform and attract young people to the area. NA 255-1 focussed on the involvement of industry.

| NA 002-1 Student Support for the Inaugural Meeting | Fred Cummins |
|--------------------------------------------------------------|--------------------|
| NA 004-1 Student Visit to the SCAI Lab, University of Skövde | Tom Ziemke |
| NA 004-2 Student Visit to the SCAI Lab, University of Skövde | Tom Ziemke |
| NA 004-3 Student Visit to University of Skovde | Tom Ziemke |
| NA 009-1 Staff Visit | Peter Ford Dominey |
| NA 030-1 Student Visit to University of Tokyo | Giulio Sandini |
| NA 044-3 Book and Webpage | Joanna Bryson |
| NA 062-1 Staff Visit to University of Rome 'La Sapienza' | Barbara Caputo |
| NA 062-2 Staff visit to IDIAP | Barbara Caputo |
| NA 083-1 Staff Visit | Carlos Herrera |
| NA 097-2 Student visit to the University of Genoa | Angelo Cangelosi |
| NA 097-2 Student visit to the University of Genoa | Angelo Cangelosi |
| NA 097-3 Student visit to the University of Plymouth | Angelo Cangelosi |
| NA 097-4 Student visit to the University of Genoa | Angelo Cangelosi |
| NA 108-1 Staff Visit to the University of Genoa | Cecilio Angulo |
| NA 119-1 Staff Visit to the University of York | Giovanni Pezzulo |
| NA 133-1 Student Visit to the Max Planck Institute, Leipzig | Stefano Nolfi |
| NA 149-1 Student Visit to University of Oxford | Pau Baiget |
| NA 225-1 Industry Forum | Erich Rome |
| | |

Please visit the website for more details on each of these actions and their outcomes:

http://www.eucognition.org/network_actions_funded.htm

Deviations from the project work-programme

None.

List of deliverables

| Del. no. | Deliverable name | Workpackage no. | Date due | Actual/Forecast delivery date | Lead contractor |
|----------|---------------------------|-----------------|----------|----------------------------------|--------------------|
| 1 | Outreach online resources | 1 | 36 | 36 | DIST |

List of milestones

WP2 - Scientific Outlook

Workpackage objectives

The Scientific Outlook activity embraces research planning and technology-watch actions. A considerable amount of effort was devoted to refining and developing the characterization of cognition that forms the basis of the network at its inception and with a view to creating an ambitious but inclusive research agenda. The key focus of this activity is the cross-fertilization of ideas from many areas.

Progress towards objectives

Network Meetings

Two general meetings were held during the past year:

- 1. Second Six-Monthly Meeting, Munich Airport, 11 & 12 January 2007
- 2. Third Six-Monthly Meeting, Munich Airport, 29 June 2007

Both the meetings were well-attended, typically with 90-100 attendees on average.

The Second Meeting was devoted to a discussion of the euCognition research roadmap. A student competition was also held on the 11th January, with two winners: Sanja Fidler and Armin Duff.

The Third Meeting was devoted to the theme of Cognitive Architectures. The mid-term review of the network was held on the 30^{th} of June.

Most presentations for the meetings are available on the euCognition website http://www.eucognition.org/network_meetings.htm

euCognition Roadmap

One of the main goals of the euCognition network is to create a research roadmap that will help identify the functional and non-functional attributes of cognitive systems and focus attention on key scientific challenges in realizing them. Our philosophy for the roadmap is that it should be application-driven and capability led. A specific network action, NA007-1 led by Bill Sharpe, has been launched to support this activity. The goals of the action are to develop an application and research Roadmap for artificial cognitive system and to engage industry sectors in the development of the roadmap so that it links the research agenda to potential applications and impact.

Plan A

Our original plan was to create the research roadmap in a variety of ways. Based on a canvass of the views of members of euCognition and staff in the EU Commission Cognition, Interaction, and Robotics

unit, the Executive Committee agreed a specific Research Roadmap Agenda, including an exposition of the purpose of the roadmap, the approach to be used in developing it, the required outcomes, and an outline plan. Plan A is set out on the euCognition wiki page devoted to the Roadmap¹. For convenience, we outline the proposed outline plan.

- January 2007: Roadmap Kick-off Meeting at the Second Six-Monthly Meeting
 - Invited industry & academic attendees
 - Identify people willing to contribute
 - o Identify a small number of sectors to start process

Based on participant feedback, the top three sectors that we intend to move ahead on are: *Humanoid robotics, Intelligent Transport,* and *Industrial Robotics.*

- Mar June 2007
 - First scientific workshop to create first cut language for requirements and produce roadmap skeleton
- July 2007 onwards
 - First round of sector workshops to identify landmark applications
 - o Bring together first round application and scientific work and organise next round of work

Plan B

In the immediate follow-up to the Roadmap Kick-off Meeting at the second six-monthly meeting in January 2007, it became clear that the challenge of creating a research roadmap was much greater than we had first thought, in terms of scope, complexity, and the effort required to complete the roadmap. These challenges are set out on the euCognition wiki.² Consequently, it was decided to rescope the goal and in March 2007 the Executive Committee adopted an Alternative Research Roadmap Agenda with a three-pronged approach, including interviews with key researchers, a series of debates, and a survey of all members of euCognition, as follows.

- Conduct a series of interviews with key researchers to establish what they see as the key challenges facing them in their work and to identify any recent breakthroughs. These interviews will be used as the basis of a catalogue of pressing research issues.
- 2. Organize a series of immersion days on selected topics. These will take the form of 'conversations' between two leaders in the field. These two people will have complementary

¹ http://www.eucognition.org/wiki/index.php?title=Research_Roadmap_Plan_A ² http://www.eucognition.org/wiki/index.php?title=Challenge_of_Creating_a_Research_Roadmap

positions on the topic in questions. The goal of the event will be to debate the issues underpinning the topic and try to tease out what it is we should be doing to make deepen the scientific foundations of the area and extend our current capabilities.

- 3. Conduct a survey of all members of euCognition, seeking answers to three questions:
 - What do we learn about human cognition from your work?
 - What new tools, capabilities, gadgets do you hope to develop in the next 5, 10, 20 years?
 - Why can't you build them now?

These answers should be framed in a way that allows them to be understood by an educated non-specialist (e.g. a reader of New Scientist or Scientific American).

This three-pronged approach should be seen as a sort of middle ground between the conventional forward-chaining approach to road-mapping and backward-chaining approach favoured in the original Research Roadmap Agenda.

Plan B represented a shift in strategy, emphasizing less the development a full-blown roadmap and focusing more on a *Learning Journey*: a series of actions that support the evolution of the discipline through the sharing of viewpoints and increased interaction among the diverse set of stakeholders. To date Plan B be has not been put into effect.

Plan C

To bootstrap the Learning Journey process, members of the Executive Committee volunteered to organize a series of workshop over the remaining period of the project. The titles of these workshops are as follows.

- Extracting Requirements of a Cognitive Architecture from research in human cognitive development (Peter Ford Dominey)
- The Role of Information in Cognition (Jürgen Jost)
- Mechanisms of coordination in a cognitive system (Christoph von der Malsburg & Andreas Engel)
- Applications, Requirements, Capabilities (Erik Hollnagel & Patrick Courtney)
- Attention, Vision, Robotics, and Cognitive Systems (Markus Vincze)
- Affect and Emotion in Cognition (Tom Ziemke)
- Cognition and Culture: the enactive approach (Bill Sharpe & Fred Cummins)

Roadmap Wiki

Progress in developing the Roadmap is documented on the euCognition wiki here

http://www.eucognition.org/wiki/index.php?title=Research Roadmap

Network Actions

In total, 28 actions have been funded under the heading of Scientific Outlook in 2006 and 2007. Most of these were to support scientific workshops. A full list is shown below.

NA 007-1 Application and research roadmap for artificial cognitive systems **Bill Sharpe** NA 010-1 Workshop on Information Theory, Neurobiology and Cognition Juergen Jost NA 012-1 ACM/IEEE Human-Robot Interaction Conference 2008 Matthias Scheutz NA 017-1 Symposium on Grand Challenge: Architecture of Brain and Mind Aaron Sloman NA 023-1 Workshop on object categorization Ales Leonardis NA 024-2 Scan Paths: Eye Movement Data Sets Stavri Nikolov NA 026-1 Workshop on Abstraction and Context in Cognitive Systems Walter Kropatsch NA 028-1 9th International Conference on the Simulation of Adaptive Behavior Jean-Arcady Meyer NA 032-1 ICVS 07 Antonios Gasteratos NA 044-1 Action Selection for Intelligent Systems Joanna Bryson NA 050-1 Workshop on Embodying Cognition: Towards an Integrated Approach? Antoni Gomila NA 066-1 CD Proceedings of ABiALS 2006 Gianluca Baldassarre NA 089-1 Workshop on Attention in Cognitive Systems - WAPCV 2007 Lucas Paletta NA 089-1 Workshop on Attention in Cognitive Systems - WAPCV 2007 Lucas Paletta Jiri Wiedermann NA 092-1 6th Czech-Slovak workshop on Cognition and Artificial Life NA 097-1 External Symbol Grounding Workshop 2006 (ESG2006) Angelo Cangelosi NA 098-1 Symposium on Language and Robots 2007 **Tony Belpaeme** NA 126-1 Workshop on Modelling Cognitive and Biological Autonomy Alvaro Morena NA 130-1 Workshop on Models of Thought **Brendan Wallace** NA 141-1 Symposium on Imitation in Animals and Artifacts Manuel Lopes NA 161-1 The 7th Int. Conf. on Epigenetic Robotics **Christopher Prince** NA 173-1 Naturalized Epistemology Workshop Marcin Milkowski NA 177-1 International Conference on Affective Computing and Intelligent Interaction Lola Canamero NA 178-1 International Conference on Development and Learning (IEEE ICDL 2007) **Yiannis Dimiris** NA 179-1 Workshop on natural and artificial intelligence Alex Kacelnik NA 193-1 Workshop on social learning in embodied agents Davide Marocco NA 205-1 Workshop on Dynamical Approaches to Development Rachel Wood NA 217-1 Workshop on Enactive Approaches to Social Cognition Steve Torrance

Please visit the website for more details on each of these actions and their outcomes:

http://www.eucognition.org/network_actions_funded.htm

Deviations from the project work-programme

None.

List of deliverables

| Del. no. | Deliverable name | Workpackage no. | Date due | Actual/Forecast delivery date | Lead contractor |
|----------|-------------------------------------|-----------------|----------|----------------------------------|-----------------|
| 2 | Scientific outlook online resources | 2 | 36 | 36 | DIST |

List of milestones

WP3 - Education

Workpackage objectives

The Education activity is intended to help alleviate the significant difficulties posed by the multidisciplinary nature of the area. The goal is to provide an effective mechanism to bridge gaps between sub-disciplines and help researchers in one area come up to speed in other areas. It is targeted both at research practitioners and graduate students. The activities will include the organization of summer schools (or, perhaps, the coordination of the efforts of the Integrated Projects in organizing summer schools) and the creation of teaching material.

Progress towards objectives

This year, there was a significant increase in the number of network actions on education, from two in 2006 to 6 in 2007, giving a total of 8. We supported two summer schools (NA 011-1 and NA 047-1) and contributed to the creation of several educational resources (NA 068-1, NA 068-2, NA 068-4, NA 094-1, and NA 105-1). In addition, a major network action was launched at the end of 2007 to develop a curriculum on cognitive systems (NA 047-4). This will be pursued during 2008.

Network Actions

| NA 011-1 5th European Neuro-IT and Neuroengineering School | Andreas Engel |
|-------------------------------------------------------------------------|-------------------|
| NA 044-4 Curriculum | Joanna Bryson |
| NA 047-1 Summer School on Humanoid Robots | Giorgio Metta |
| NA 068-1 Neurophysiology and Psychophysics material for CVOnline | Robert Fisher |
| NA 068-2 Optically scan five cognitive vision books for CVOnline | Robert Fisher |
| NA 068-4 Collection of educational materials for machine learning | Robert Fisher |
| NA 094-1 Cognitive robotics: from laboratory to media | Catalin Buiu |
| NA 105-1 Connect with AI: cognitive robot education outreach initiative | Sethu Vijayakumar |

Please visit the website for more details on each of these actions and their outcomes:

http://www.eucognition.org/network_actions_funded.htm

Deviations from the project work-programme

None.

List of deliverables

| Del. no. | Deliverable name | Workpackage no. | Date due | Actual/Forecast delivery date | Lead contractor |
|----------|----------------------------|-----------------|----------|----------------------------------|--------------------|
| 3 | Education online resources | 3 | 36 | 36 | DIST |

List of milestones

WP4 - Online Resources

Workpackage objectives

This work-package focuses on providing a dynamic web-based repository of material that will assist the cognitive systems community, in research, in education, and helping to make the relevance and importance of cognitive systems visible to the greater community.

Progress towards objectives

The euCognition Website can be accessed via both <u>www.eucognition.org</u> and <u>www.eucognition.eu</u>

The euCognition wiki can be accessed via http://www.eucognition.org/wiki/index.php?title=Main_Page

At present, we are running both main website and wiki in parallel to monitor the relative usage of each service. At some point in the future, we may consolidate these and opt for either one or the other delivery mechanism.

For easy reference on the current state of the website, a traversal of the menu system is listed on the following page with menus and sub-menus in bold and with menu items showing their respective URLs.

Traversal of the euCognition Website: http://www.eucognition.org

Home http://www.eucognition.org/index.htm

More Info

Membership

| List of Members | http://www.eucognition.org/members.htm |
|------------------------|-------------------------------------------------------|
| Members Research Areas | http://www.eucognition.org/members_research_areas.htm |
| Apply for Membership | http://www.eucognition.org/membership.htm |

| Contact Details | http://www.eucognition.org/contacts.htm |
|------------------------|-----------------------------------------|
| About euCognition | http://www.eucognition.org/about.htm |
| Reimbursement of Costs | http://www.eucognition.org/costs.htm |

Network Actions

| Apply for a Network Action | http://www.eucognition.org/network_actions.htm |
|----------------------------|-------------------------------------------------------|
| Funded Network Actions | http://www.eucognition.org/network actions funded.htm |

Official Events <u>http://www.eucognition.org/official.htm</u>

Executive Committee <u>http://www.eucognition.org/exec.htm</u>

Meetings and Workshops

| Network Meetings | http://www.eucognition.org/network_meetings.htm |
|-------------------------------------|-------------------------------------------------|
| Executive Committee Meetings | http://www.eucognition.org/exec_meetings.htm |
| Topical Workshops | http://www.eucognition.org/workshops.htm |

Useful Links

ECVision <u>http://www.ecvision.org</u>

Cognition Unit

| Home Page | http://www.cordis.lu/ist/cognition/index.html |
|------------|-----------------------------------------------|
| Contacts | http://www.cordis.lu/ist/cognition/links.htm |
| Events | http://www.cordis.lu/ist/cognition/events.htm |
| Open Calls | http://www.cordis.lu/ist/cognition/calls.htm |

Exchange Rates

| Current rates | http://www.ecb.int/stats/exchange/eurofxref/html/index.en.html |
|---------------|----------------------------------------------------------------|
| Past rates | http://europa.eu.int/eur-lex/lex/JOIndex.do?ihmlang=en |

| Contract Documents | http://www.eucognition.org/contract_documents.htm |
|---------------------|---------------------------------------------------|
| Management Reports | http://www.eucognition.org/management_reports.htm |
| Website Statistics | http://www.eucognition.org/website_statistics.htm |
| euCognition Artwork | http://www.eucognition.org/logo.htm |

News

| Announcements | http://www.eucognition.org/news.htm |
|-----------------------|---------------------------------------------------|
| Official Events | http://www.eucognition.org/official.htm |
| Jobs | http://www.eucognition.org/jobs.htm |
| Open Student Position | shttp://www.eucognition.org/student_positions.htm |

| Events and Calls | http://www.eucognition.org/events.htm |
|------------------|-----------------------------------------------|
| Partner Search | http://www.eucognition.org/partner_search.htm |

Outreach

| euCognition Wiki | http://www.eucognition.org/wiki/ |
|--------------------------|-----------------------------------------------------------------------------------|
| Definitions of Cognition | http://www.eucognition.org/wiki/index.php?title=Definitions_of_Cognition |
| Applications | http://www.eucognition.org/wiki/index.php?title=Applications_of_Cognitive_Systems |
| Exchanges and Visits | http://www.eucognition.org/exchanges.htm |
| Software Resources | http://www.eucognition.org/software_resources.htm |

Outlook

| euCognition Wiki | http://www.eucognition.org/wiki/ |
|-----------------------------|------------------------------------------------------------|
| Exchanges and Visits | http://www.eucognition.org/exchanges.htm |
| Research Planning | http://www.eucognition.org/planning.htm |
| White Papers | http://www.eucognition.org/white_papers.htm |
| Proceedings and Abstracts | http://www.eucognition.org/proceedings.htm |
| General Articles | http://www.eucognition.org/general_articles.htm |
| Affect and Emotion Articles | http://www.eucognition.org/affect_emotion_articles.htm |
| Dynamical Systems Articles | http://www.eucognition.org/dynamical systems articles.htm |
| Cognitive Vision Articles | http://www.eucognition.org/cognitive_vision_articles.htm |
| Post-Cognitivist Psychology | http://www.eucognition.org/post-cognitivist_psychology.htm |

Education

| euCognition Wiki | http://www.eucognition.org/wiki/ |
|-------------------------------|-----------------------------------------------|
| Exchanges and Visits | http://www.eucognition.org/exchanges.htm |
| Summer Schools | http://www.eucognition.org/summer_schools.htm |
| Ph.D. and M.Sc. Dissertations | http://www.eucognition.org/dissertations.htm |
| Postgraduate Courses | http://www.eucognition.org/courses.htm |

Traversal of the euCognition Wiki: http://www.eucognition.org/wiki/index.php?title=Main_Page

Research

 Research Roadmap
 http://www.eucognition.org/wiki/index.php?title=Research_Roadmap

 Controversies in Cognitive Systems Research
 http://www.eucognition.org/wiki/index.php?title=Controversies_in_Cognitive_Systems_Research

 Morkshops
 http://www.eucognition.org/wiki/index.php?title=Workshops

Education

| Model Curriculum | http://www.eucognition.org/wiki/index.php?title=Model_Curriculum |
|------------------|------------------------------------------------------------------|
| Course Material | http://www.eucognition.org/wiki/index.php?title=Course_Material |
| Student Forum | http://www.eucognition.org/wiki/index.php?title=Student_Forum |

General Topics

Cognition Briefings <u>http://www.eucognition.org/wiki/index.php?title=Cognition_Briefings</u> Definitions of Cognition <u>http://www.eucognition.org/wiki/index.php?title=Definitions_of_Cognition</u> Applications of Cognitive Systems http://www.eucognition.org/wiki/index.php?title=Applications_of_Cognitive_Systems Periodically we make available a series of statistics on the frequency with which the website and wiki resources are being accessed so that they can be used as metrics to evaluate the success of the Coordination Action. These statistics are available on the website here

http://www.eucognition.org/website_statistics.htm

Each report shows the top 100 most frequently accessed pages on the website and access on the Wiki. It also provides access statistics for the ECVision website (European Research Network for Cognitive Computer Vision Systems) which is hosted by euCognition.

For convenience, we reproduce the most recent statistics below; please refer to the website for the full set.

It should be borne in mind that these statistics represent not the total number of times a particular page or resource has been accessed, but the number of times in the preceding 12 month. This helps balance the weighting of statistics of resources that have been recently introduced vis-à-vis those that have been on the website since the beginning.

A brief look at these statistics reveals two clear facts: the popularity of the speakers presentations from the six-monthly meetings and the growing number and popularity of cognition briefings.

30th March 2008

The following are the top 100 most popular web pages on the site in the previous 12 months. Web pages are grouped in three categories: euCognition website, euCognition Wiki, ECVision website

| euCognition Page | Number of |
|--------------------------------------------------------|--------------|
| | requests |
| /Elizabeth_Spelke.pdf | 4931 |
| /six_monthly_meeting_2/Hakan_Warston.pdf | 4048 |
| /members.htm | 3615 |
| /asm-whitepaper-final-060804.pdf | 3285 |
| /Scott_Kelso.pdf | 2739 |
| /network_actions/NA141-1_outcome.pdf | 2469 |
| /six_monthly_meeting_2/Sanja_Fidler.pdf | 2271 |
| /Jiri_Wiedermann.pdf | 2118 |
| /six_monthly_meeting_4.htm | 1854 |
| /network_actions_funded.htm | 1788 |
| /post-cognitivist/post-cognitivist_abstracts.pdf | 1762 |
| /index.htm | 1637 |
| /news.htm | 1629 |
| /six_monthly_meeting_2/Rainer_Stollhoff.pdf | 1518 |
| /euCognition_overview.pdf | 1370 |
| /official events.htm | 1195 |
| /membership.htm | 1186 |
| /six_monthly_meeting_3.htm | 1169 |
| /six_monthly_meeting_3/Peter_Redgrave_presentation.pdf | 1134 |
| /embodying_cognition_2006/Gregor_Schoner.pdf | 1128 |
| /six_monthly_meeting_2/Armin_Duff.pdf | 1102 |
| /six_monthly_meeting_2/Bill_Sharpe.pdf | 1094 |
| /six_monthly_meeting_2/Jose_Santos-Victor.pdf | 1019 |
| /white_papers.htm | 1013 |
| /papers/Pinz06.pdf | 983 |
| /embodying_cognition_2006/Jeroen_Smeets.pdf | 888 |
| /six_monthly_meeting_2.htm | 879 |
| /network_actions/NA092-1_proposal.pdf | 839 |
| /inaugural.htm | 814 |
| /embodying_cognition_2006/Dante_Chialvo.pdf | 796 |
| /registration.htm | 772 |
| /jobs.htm | 760 |
| /AAAI_symposium.pdf | 733 |
| /John Shawe-Taylor.pdf | 694 |
| /events.htm | 664 |
| /costs.htm | 662 |
| /papers/ESG2006_abstracts_and_papers.pdf | 657 |
| /six_monthly_meeting_1/Hanspeter_Mallot.pdf | 636 |
| /embodying_cognition_2006/Randall_Beer.pdf | 618 |
| /papers/VernonMettaSandini06.pdf | 609 |
| /six monthly meeting 1.htm | 594 |
| /enactive_AI_white_paper.pdf | 591 |
| /enacive_Ai_wille_paper.pui | 591 |

| /inaugural_presentation.pdf | 577 |
|-------------------------------------------------------------|-----|
| /proceedings.htm | 572 |
| /six_monthly_meeting_5.htm | 567 |
| /embodying_cognition_2006.htm | 565 |
| /Abstracts_6th_Czech_Slovak_WS.pdf | 565 |
| /papers/ErlhagenBicho06.pdf | 563 |
| /network_actions.htm | 563 |
| /Education_Breakout.pdf | 558 |
| /six_monthly_meeting_2/David_Vernon_&_Bernhard_Sendhoff.pdf | 539 |
| /embodying_cognition_2006/Istvan_Berkeley.pdf | 531 |
| /coevolution_white_paper.pdf | 510 |
| /six_monthly_meeting_4/Meeting_4_Programme.pdf | 508 |
| /ABiALS_2006/ | 495 |
| /network_meetings.htm | 472 |
| /SAB 2006/ | 468 |
| /six_monthly_meeting_2/Colette_Maloney.pdf | 455 |
| /six_montiny_meeting_z/colette_ivialoney.pdf | 444 |
| /cognitive_vision_articles.htm | 444 |
| /partner_search.htm | 443 |
| /euCognition_Application_for_Membership.doc | 439 |
| /courses.htm | 437 |
| | |
| /network_actions/NA108-1_outcome.pdf | 431 |
| /dynamical_systems_articles.htm | 424 |
| /euCognition_Request_for_Reimbursement.pdf | 417 |
| /software_resources.htm | 411 |
| /fp7-challenge2-background_en.pdf | 410 |
| /euCognition_Application_for_Membership.pdf | 405 |
| /network_actions/NA105-1_proposal.pdf | 397 |
| /website_statistics.htm | 396 |
| /six_monthly_meeting_2/Stefano_Nolfi.pdf | 395 |
| /post-cognitivist_psychology.htm | 395 |
| /exec_meetings.htm | 394 |
| /six_monthly_meeting_2/James_Crowley.pdf | 391 |
| /embodying_cognition_2006/Pim_Haselager.pdf | 391 |
| /planning.htm | 381 |
| /embodying_cognition_2006/workshop_theme.pdf | 379 |
| /post-cognitivist/index.htm | 369 |
| /about.htm | 362 |
| /management_reports.htm | 347 |
| /contacts.htm | 346 |
| /embodying_cognition_2006/Ricardo_Sanz.pdf | 333 |
| /six_monthly_meeting_2/Cyril_Brom.pdf | 329 |
| /CVOnline.htm | 327 |
| /six_monthly_meeting_3/Joanna_Bryson_presentation.pdf | 325 |
| /six_monthly_meeting_1/Jean-Arcady_Meyer.pdf | 317 |
| /six_monthly_meeting_3/Murray_Shanahan_presentation.pdf | 310 |
| /network_actions/NA062-1_proposal.pdf | 310 |
| /exchanges.htm | 310 |
| /questionnaire_results.htm | 304 |
| /inaugural_programme.pdf | 302 |
| /network_actions/NA097-2_outcome.pdf | 298 |

| /members_research_areas.htm | 298 |
|-------------------------------------------|-----|
| /six_monthly_meeting_2/Andy_Graham.pdf | 296 |
| /network_actions/NA004-1_proposal.pdf | 295 |
| /six_monthly_meeting_1/Ulrich_Nehmzow.pdf | 293 |
| /network_actions/NA004-2_proposal.pdf | 287 |
| /euCognition_Activity_Report_M1-M12.pdf | 283 |
| /dissertations.htm | 281 |

| euCognition Wiki | Number of requests |
|-----------------------------------------------------------------------|--------------------------|
| Main Page | 4441 |
| Research Roadmap | 2272 |
| Cognition Briefings | 1977 |
| Definitions of Cognition | 1959 |
| Student Forum | 1205 |
| Controversies in Cognitive Systems Research | 1028 |
| Applications of Cognitive Systems | 939 |
| Course Material | 597 |
| Roadmap Kick-off Meeting | 589 |
| Model Curriculum | 397 |
| FP7 ICT Call3 - Challenge 2: Cognitive Systems, Interaction, Robotics | 192 |
| Workshops | 171 |
| Cognition Briefings | |
| Automatic and Willed Control of Action | 2086 |
| What is Cognition? One View of Cognitive Systems | 2058 |
| Schemas and Schema-based Architectures | 1012 |
| Odor localization | 954 |
| Cognitive Architectures | 895 |
| Facial Motion Analysis | 845 |
| Autonomy and Cognition | 803 |
| Symbol Grounding in Cognitive Systems | 661 |
| Simulating the Evolution of Language with Cognitive Agents and Robots | 651 |
| Human Behavior Interpretation from Image Sequences | 609 |
| Symbol Tethering | 459 |
| Subsumption | 455 |
| Simulating Speech Production and Speech Acquisition | 438 |
| From Image Sequences to Natural-Language Texts | 404 |
| Computationalism | 391 |
| Distributed Intelligence for Smart Assistive Appliances | 355 |
| Symbol tethering | 304 |
| Bayesian Probabilistic Learning in Robots | 280 |
| Bayesian Multisensory Perception | 274 |
| Eyes-Neck motor coordination through coupled chaotic systems | 245 |
| Social Learning in Embodied Agents | 242 |
| CoEvolutionary Approaches in Cognitive Robotic System Design | 240 |
| Biomimetic Robotics | 178 |
| Naturalized Epistemology and Artificial Cognitive Systems | 147 |
| Language and cognitive robots | 140 |

| Affordances: The review of an inspiring notion | 128 |
|-------------------------------------------------------------------------|-----|
| Some Considerations on Spatial Relations | 124 |
| Tactile sensing in robots | 116 |
| Automatic and Willed Control of Action | 393 |
| From Image Sequences to Natural-Language Texts | 339 |
| Symbol Grounding in Cognitive Systems | 337 |
| Simulating the Evolution of Language with Cognitive Agents and Robots | 307 |
| Working Memory | 300 |
| Schemas and Schema-based Architectures | 282 |
| Subsumption | 235 |
| Distributed Intelligence for Smart Assistive Appliances | 182 |
| Autonomy and Cognition | 144 |
| How can robots help us to understand biological systems? A look at odor | |
| localization in the male moth. | 69 |
| CoEvolutionary Approaches in Cognitive Robotic System Design | 56 |
| Computationalism | 47 |

Available Resources

The following is a list some of the resources that have been made available by members on the website.

A <u>Summary</u> and the <u>Proceedings</u> of the 2008 Workshop on Interactive Robot Learning. This workshop was supported by euCognition through Network Action NA 297-1.

Economic Impact of Investment in Intelligent Machine Technology, 2006-2025

White paper on the Anticipatory Nature of Representation

White paper on Communication and Distributed Control in Multi-Agent Systems

The Scanpaths.org Archive of Eye Movement Data from Everyday Actions <u>Scanpaths.org</u>. Several of these data sets were prepared for the repository from pre-existing data with support from euCognition under <u>Network Action NA024-2</u>.

Several new software resources are now available.

White paper on Enactive Artificial Intelligence

White paper on CoEvolutionary Approaches in Cognitive Robotic Systems Design

CVonline now has a new sub-tree devoted to <u>Introductory Visual Psychophysics & Psychology</u>. This work was funded through Network Action 068-2.

Armin Duff's prize-winning presentation <u>Rule learning in men, machines and avatars: From the neuronal</u> <u>organization of the pre-frontal cortex to computational principles</u>, from the Student Competition at the <u>at</u> <u>the 2nd Six-Monthly</u>, 25 March 2007.

Sanja Fidler's prize-winning presentation <u>Learning Hierarchical Representations of Object Categories</u>, from the Student Competition at the <u>at the 2nd Six-Monthly</u>.

The presentations and background material from Workshop on Embodying Cognition, Palma de Mallorca, December 14-16, 2006, are now available <u>here</u>.

The dynamic neural field approach to cognitive robotics: a tutorial paper written by Wolfram Erlhagen and Estela Bicho.

Object Categorization: a review paper written by Axel Pinz.

Abstracts of the 6th Czech Slovak Workshop on Cognition and Artificial Life

White paper on Action Selection for Intelligent Systems written by Cyril Brom and Joanna Bryson

New material on post-cognitivist psychology

Email Lists

There are two email lists which can be used to send email to all members and members of the Executive Committee. These are

members@eucognition.org

executive@eucognition.org

Both lists are moderated by the Network Coordinator so that all emails have to be approved before they are distributed to the recipients. This ensures no spam is distributed and that mail coming from euCognition is seen to be relevant to the members' interests. Postings to the members email distribution list are restricted to items directly linked to euCognition, such as events that are co-sponsored by the network. Notices on other relevant events (e.g. calls for papers, workshop announcements) are posted on the website.

Deviations from the project work-programme

The website is navigated using conventional drop-down menus implemented with client-side scripts. With the exception of the wiki, the server-side of the website is implemented with static HTML rather than PHP scripts and a mySQL database.

List of deliverables

| Del. no. | Deliverable name | Workpackage no. | Date due | Actual/Forecast delivery date | Lead contractor |
|----------|---------------------|-----------------|----------|----------------------------------|--------------------|
| 4 | euCognition website | 4 | 36 | 36 | DIST |

List of milestones

WP5 – Network Coordination

Workpackage objectives

WP5 deals with the coordination of the network activities and monitoring the coordination of the Network Actions. The work focuses on the coherent development of the activities of the network overall, on building an integrated community within the network, on maximizing the interaction between the various activities and areas, and on ensuring that the network is as relevant as possible to all concerned: the membership, the cognitive systems community, and the community at large.

Progress towards objectives

Composition of the Executive Committee

Two new members, Joanna Bryson, University of Bath, and Barbara Caputo, IDIAP, were added to Executive Committee in July 2008 following the review of the project where it was noted by the reviewers that there should be more "diversity" on the committee. The Executive Committee now comprises the following 14 members.

| David Vernon | University of Genova; now at Khalifa University of Science, |
|----------------------------|-------------------------------------------------------------|
| (network coordinator) | Technology, and Research, UAE. |
| Fred Cummins | University College Dublin |
| Markus Vincze | Technische Universitaet Wien |
| Tom Ziemke | Högskolan i Skövde |
| Erik Hollnagel | Association pour la Recherche et le Développement des |
| | Méthodes et Processus Industriels (ARMINES |
| Christoph von der Malsburg | Frankfurt Institute for Advanced Studies (FIAS) |
| Bill Sharpe | The Appliance Studio Ltd. |
| Guy Tiberghien | Centre National de la Recherche Scientifique (CNRS) |
| Juergen Jost | Max Planck Institute for Mathematics in the Sciences |
| Andreas Engel | University Medical Center Hamburg-Eppendorf |
| Peter F. Dominey | Centre National de la Recherche Scientifique (CNRS) |
| Matthias Scheutz | Notre Dame University |
| Joanna Bryson | University of Bath |
| Barbara Caputo | IDIAP |
| | |

Executive Committee Meetings

The Executive Committee met on two occasions in 2007:

30 March 2007 12 October 2007

Notes on each meeting can be found on the website here

http://www.eucognition.org/network_meetings.htm

It must be recorded that the attendance of members of the Executive Committee at these meetings is disappointing, with typically only 50% of the members attending Hopefully, it will improve in 2008.

Interaction among Executive Committee Members

In 2006, the Network Coordinator sent approximately 120 emails to the Executive Committee, i.e., one every three days. In 2007, the number of emails was 110. This provides a measure of the degree of active participation of the members of the Executive Committee in the coordination of the network.

Roles and Responsibilities of the Executive Committee

Responsibilities for the three areas of Outreach, Scientific Outlook, and Education rotate among the members of the Executive Committee on a semi-annual basis, approximately.

In the first nine months, those responsible were:

| Outreach | Erik Hollnagel |
|--------------------|----------------|
| Scientific Outlook | Tom Ziemke |
| Education | Markus Vincze |

From October 2006 to March 2007, those responsible were:

| Outreach | Bill Sharpe (with particular focus on the euCognition Roadmap) |
|--------------------|----------------------------------------------------------------|
| Scientific Outlook | Fred Cummins (with particular emphasis on cognition briefings) |
| Education | Matthias Scheutz |

It was intended to rotate responsibilities again at the March 2007 Executive Committee meeting. Unfortunately, given the small number of people who actually attended, it was not possible to reassign the responsibilities for the three areas. In the event, Fred Cummins agreed to continue to take responsibility for the Outreach brief (focusing on cognition briefings), Bill Sharpe agreed to continue to take responsibility for the Outlook brief (focusing on the roadmap), and it was agreed to ask Matthias Scheutz to continue to take responsibility for the Education brief (which subsequently he kindly agreed to do). When only half the Executive Committee turned up for the next meeting in October 2007, rotation of responsibilities was again impossible to consider. After some discussion, it became clear that the original idea assigning responsibility for each of the three areas of Education, Outreach, and Scientific Outlook to members of the Executive Committee on a six-monthly rotation has not worked. Either the time has been too short to accomplish much or the rotation hasn't taken place. Whatever the reason, it was decided at the meeting that for the remaining year or so of the project, we would depend on the individual initiatives of the members of the members of the Executive on relevant topics rather than sticking with the original assignment of responsibility to areas.

Policy on Official euCognition Events

Early in the life of the project, the Executive Committee adopted a policy of supporting the travel costs of members to designated euCognition workshops. However, the policy has not often been implemented and, apart from the six-monthly meetings, only one workshop has so far been designated to be a qualifying meeting. It was decided at the October 2007 meeting it would be appropriate to fully implement the policy in order to foster the maximum amount of interaction between members.

Henceforth, any workshop or conference that receives support from euCognition may also apply to be designated an official euCognition event, provided it is open to participation by euCognition members. In turn, any member of euCognition may apply for reimbursement of travel costs to a designated meeting subject to the normal euCognition guidelines on reimbursement of costs and on condition that the person claiming the cost contributes a new cognition briefing to the euCognition wiki. The URL to the briefing must be provided on the submitted claim form and the claim will not be considered unless the cognition briefing has been contributed. Cognition briefings that have been contributed previously, i.e. prior to the designated workshop or conference, will not be eligible and a different briefing must be contributed for each claim. The member is free to choose the topic of the briefing.

In 2007, just one meeting was designated an official euCognition event, as follows:

Symposium on Language and Robots Aveiro, Portugal, 10-12 December 2007

Deviations from the project work-programme

None.

List of deliverables

| Del. no. | Deliverable name | Workpackage no. | Date due | Actual/Forecast delivery date | Lead contractor |
|----------|---------------------------------------|-----------------|----------|----------------------------------|--------------------|
| 5 | Network Coordination online resources | 5 | 36 | 36 | DIST |

List of milestones

WP6 - Management

Workpackage objectives

WP6 deals with management of the consortium management and focuses mainly on handling the financial aspects such as reimbursement of claims for costs to members, reporting, and other contractual issues.

Progress towards objectives

This is dealt with in section 3 on consortium management.

Deviations from the project work-programme

None.

List of deliverables

| Del. no. | Deliverable name | Workpackage no. | Date due | Actual/Forecast delivery date | Lead contractor |
|----------|------------------------------------------------------|-----------------|----------|----------------------------------|--------------------|
| 6 | euCogntiiton website | 6 | 36 | 36 | DIST |
| 7 | Final plan for using and disseminating knowledge | 6 | 36 | 36 | DIST |
| 8 | Report on raising public participation and awareness | 6 | 36 | 36 | DIST |

List of milestones

Section 3 – Consortium management

The tasks that are included in this work-package are:

- 1. Processing of applications for membership
- 2. Processing and reimbursement of members' costs
- 3. Prepare consolidated financial report
- 4. Collection and collation of audit certificates
- 5. Liaison with Commission Project Officer
- 6. Collection and distribution of deliverables
- 7. Monitoring of project budget against expenditure
- 8. Collation six-monthly management reports
- 9. Preparation and issue of sub-contracts
- 10. Maintenance of member database

All ten tasks have been carried out successfully by the Network Coordinator on a daily basis for the past 12 months.

In the following, we will highlight some special issues.

Website Administrator

As mentioned above, the person that we had originally targeted to take charge of the development of the website declined to accept a contract and the Network Coordinator then had to take responsibility for the design, implementation, and administration of the website. This continued through 2007.

Changes to the Consortium

During the year, we continued to work on the preparation of a second contract amendment to reflect changes in the make-up of the consortium. Unfortunately, this was not completed in 2007 due to illness on the part of the Network Coordinator. The changes that are anticipated in the amendment are as follows.

Addition of Contractors

ASSOCIATION POUR LA RECHERCHE ET LE DEVELOPPEMENT DES METHODES ET PROCESSUS INDUSTRIELS (ARMINES) 01 January 2007

STIFTUNG FRANKFURT INSTITUTE FOR ADVANCED STUDIES (FIAS), 27 June 2007

IDIAP (FONDATION DE L'INSTITUT DALLE MOLLE D'INTELLIGENCE ARTIFICIELLE PERCEPTIVE) (IDIAP), 01 July 2007

UNIVERSITY OF BRISTOL (UOB), 01 July 2007

UNIVERSITY OF BATH (UBAH), 01 July 2007

Termination of a contractor's participation

LINKOEPINGS UNIVERSITET, 31 December 2006 RUHR-UNIVERSITAET BOCHUM, 31 December 2006

Domain Names

The consortium has acquired the rights to the euCognition.eu and euCognition.org domain names. We continue to use the .org versions in our day-to-day work as it conveys an image that is more open to international involvement.

We also acquired the rights to the CogSys.eu, CognitiveSystems.eu, and CognitiveRobotics.eu domain names. These domain names point to the Cognition Unit (Unit 5) Commission website http://cordis.europa.eu/ist/cognition/index.html

Section 4 – Other issues

ANNEX – Plan for using and disseminating knowledge

Section 1 – Exploitable Knowledge and its Use

The euCognition project is a Coordination Action and therefore does not involve the creation of exploitable knowledge.

Section 2 – Dissemination of Knowledge

The euCognition project is dedicated to the production of freely-available resources for the advancement of the discipline of artificial cognitive systems. These resources are available on the euCognition website and Wike at www.eucognition.org

Publications

None.

Dissemination Activities

These are treated in Workpackage 1 on Outreach.

Section 3 – Publishable Results

None at this point.