eunite

EUNITE Activities with Associated and Third Countries and with Other Networks

Final Report

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1. Background

The obligation for co-operation with accession and third countries is mentioned when describing the Workpackage 6 (Steering Committee) in Annex 1 as follows:

"Relations with associated and third countries
At the commencement of EUNITE, a strategy will be formulated on how Nodes from the EU associated States will be encouraged to join EUNITE. Also, the committee should examine collaboration with other (non-EU) third countries. The strategy and the necessary actions are decided by the Steering Committee."

Correspondingly, the co-operation with other networks is concerned in Chapter 10 (Clustering) in Annex 1:

"EUNITE will seek co-operation from networks and their nodes that are active in close research areas and particularly with :
1. NEuroNet Network of Excellence in Neural Networks
2. MLnet Network of Excellence in Machine Learning.
3. EVONET Network of Excellence in Evolutionary Computation.

… Synergies with other research areas contributing to the problem solving process in order to build smart adaptive systems can be also fostered with communities from the areas of Model Based Systems &Qualitative Reasoning (MONET) and of the computational logic area (COMPULOG). It is planned to establish the co-operation by the following common activities:
· meetings of groups
· common events
- symposia, conferences
- debates
· common actions
- competitions
- joint proposals of members in research projects
- brainstorm meetings in common problem areas
- executive reports and papers."

2. Strategic questions

The strategy for both of these activities was written by the scientific director (Activity 153, Nov. 28, 2001) and it was discussed in Steering Committee Meeting at Hotel Semiramis, Tenerife, Dec. 15, 2001 (in the connection of the 2001 Annual Symposium). It gave some recommendations, how to proceed with these activities:

Concerning co-operation with accession and third countries:

"1. Committee Chairmen should consider recruiting active members from accession countries. This is important especially in committees with low membership (either in numbers or in activities).
2. Closed industrial meetings/workshops should be considered. They could be either national or committee-based (probably on IBA A/IBA E). They should concentrate on discussion of possibilities/benefits of SAS/IM approaches in industrial use and in this way they should support our Roadmap work."

And considering co-operation with other networks:

"1. Committee Chairmen should follow the situation in other networks on their area and look for possibilities to co-operate.
2. Co-operation possibilities should be taken into account in planning next Annual Symposium (probably a special session on inter-network discussions).
3. Some money will be allocated for the new SIG-operation.".

3. Co-operation with Associated and Third Countries

3.1 *Membership*

In the early phases EUNITE had 10 nodes from accession countries, as they were called at this time. The membership situation of new member countries and European non-EU countries is now as follows:

Bulgaria:
1. Bulgarian Academy of Sciences
2. St. Kliment Ohridski University of Sofia
3. Start Engineering JSCo.
4. Technical University of Varna
5. University of Chemical Technology and Metallurgy

Croatia:
6. Faculty of Electrical Engineering and Computing FEEC in Zagreb

Czech:
7. Czech Technical University in Prague
8. Prague University of Economics

Hungary:
9. Hungarica.com Trade & Service Ltd.

Poland:
10. National Instutute of Telecommunications
11. Polish Academy of Sciences, Systems Research Institute

Romania:
12. Dunarea de Jos Galati University

Russia:
13. Russian State University of Physical Education
14. S.I. Vavilov State Optical Institute
15. Ulyanovsk State Technical University

Slovenia:
16. Jozef Stefan Institute
17. University of Maribor

Slovakia:
18. Technical University of Kosice
19. VUJE Trnava a.s.

Ukraina:
20. Kiev Politechnical Institute

There are also some members from non-European countries:

Argentina:
1. International Health Services Argentina S.A.

Chile:
2. University of Chile

Korea (South)
3. Kangnam University

So the numbers have more than doubled in three years. This shows the increasing interest in EUNITE activities. The only negative feature is the low number of industrial members.

3.2 Meetings and Conferences

Workshop Intelligent Methods for Quality Improvement in Industrial Practice was arranged in Prague, 11 th February, 2002. The workshop introduced some advanced intelligent methods and tools developed for solving problems appearing in various areas of diagnostics, production planning and system control. Application of these methods can significantly improve the quality of system performance, its control or diagnostics. Several case studies were presented documenting practical experiences and results obtained in different areas of industry, as well as in medicine, telecommunications and railway transport.

The EUNITE TTC committee organized in co-operation with the University of Miskolc, Hungary, and the TU Košice, Slovakia, an workshop "International Workshop devoted to

problems of technology transfer of Intelligent Solutions into Technology(ISIT 2002)". It took place in the Hotel Palota, a very nice castle located in Lilafured, a settlement 10 kilometers from Miskolc between June 19 - 21, 2002. The objective of the meeting was to encourage the discussion between Academia and Industry in problems of implementation intelligent solutions in real world industry. The workshop tried to bring together companies and international experts - most of them from Japan- in the field of intelligent technologies and to discuss existing gaps and bridges to speed up the technology transfer between academia and industry and vice-versa. The two days workshop had some from academia and industry, which gave oral presentations and a participated in round table discussion.

Just before this Workshop, the Scientific Director participated in EuroCI Symposium in Kosice, Slovakia in June giving a lecture on EUNITE activities, especially concerning industrial applications

The special session on Adaptive Intelligent Systems was organised in the framework of the IEEE International Symposium on Intelligent Systems IS'02, which took place 10-12 September 2002, Varna, Bulgaria with the aim to review the recent achievements in this area and to formulate problems, which remain to be addressed. This session as well as the Symposium were focused on the implementation issues of the Intelligent Systems with important participation of well known global industrial representatives from Ford Motor Co., Honeywell, Dow Chemical etc.. The problems of adaptation and 'smartness'/ 'intelligence' were paid a special attention.

The workshop Intelligent and Adaptive Systems in Medicine was held at the Department of Cybernetics, Czech Technical University in Prague on March 31 - April 1, 2003. Its main goal was to present some advanced intelligent and adaptive methods and tools developed for solving problems appearing in various areas of medical diagnostics, monitoring and treatment planning. Two categories of papers were presented, namely surveys and case studies. The surveys covered such areas as intelligent systems in medicine, fuzzy systems, medical data mining, application of multi-agent technology to medicine, neural networks, distributed and automated testing of software in medical applications. Several case studies were presented documenting practical experience and results obtained in different areas of medicine. The participants were Czech medical doctors, professionals from health care, researchers and PhD students.

Czech Society for Cybernetics and Informatics organised a Workshop on Uncertainty Processing (WUPES 2003) in Hejnice, Czech Republic, September 24-27, 2003. The scientific program consisted of 6 half-day sessions, during which 27 lectures selected by the international Program Committee were delivered. The presentations were divided into two groups: 14 long presentations (50 minutes) and 13 short ones (30 minutes). All the lectures were also published in the Proceedings. That was published both in paper version and on CDs.

3.3 *Competitions*

University of Kosice was actively participating in two first EUNITE Competitions. In the first competition, the set problem was to predict daily peak electricity demands for the month of January 1999 based on 2 previous years and some additional information related to the average temperature data as well as status of the day were provided. Both maximum and average errors were of concern of the month January 1999 and data was related to Eastern Slovakia region load.

The main target of the competition 2002 was to model the Customer Intelligence in the Bank. Banks in general need to analyse the banks client intelligence (behavior) and the estimation of clients' behaviour with inclusion of the external factors could be very useful for the Bank management to predict if the client is active or non-active. The task for the participants was to create the classification tools for distinguishing the "active" and "non-active" classes. The data was originating from a Slovakian bank.

3.4 *Task forces*

University of Kosice was also running the EUNITE/ WEBCAST Video Library task force. The task force was oriented to create a WEB environment and Video library of selected research talks of prominent research persons and published them on the WEBSPACE. The talks were divided into some topic oriented groups and all are provided for public including students and academic and industrial community. Taskforce include user and system manual of creating such a WEBCAST system, which can be used as an experience for future similar sub-projects.

4. Co-operation with Other Networks

4.1 *ALAD SIG*

ALAD SIG is a Special Interest Group "Agents that learn, adapt & discover" that EUNITE formed together with Agent Link II and ILPNet. The SIG is concerned with all aspects of learning, adaptation and discovery in the context of intelligent agents – both theoretical principles, novel algorithms, and practical applications.

The SIG encompasses a variety of research areas, including (but not restricted to):

- Adaptive Personal Information Agents
- Agent-Based Knowledge Discovery & Data-Mining
- Learning in Multi-Agent Systems
- Learning & Communication
- Evolutionary Agents & Emergent Behaviour
- Distributed Learning
- Learning Agents for E-Commerce
- Learning Agents for Electronic Entertainment

- Learning Robots

The SIG aims to promote interaction among researchers (academic and industrial) via the dissemination of relevant information, organisation of meetings and workshops, fostering research collaborations, etc.

The kick-off meeting of this SIG took place on Dec. 4, 2001 in Amsterdam as an aside meeting of the Agent link community. During this meeting an email contact list was initiated and around 40 people were registered after one week of the initiation of the SIG showing potentially great interest on this activity.

This co-operation was mainly realised as meetings and special workshops. The first meeting was arranged February 3-4, 2002, in Barcelona and following presentations were given.

- Luis Nunes (University of Porto, Portugal*): Future Work on Learning Agents at LIACC-NIAD&R.*
- Vladimir Gorodetski (St. Petersburg Institute for Informatics and Automation, Russia): *Agent-Based Distributed Data Mining and Knowledge Discovery.*
- Luis Botelho (ADETTI, Portugal*): Resource-Bounded Adaptive Information and Service Brokers.*
- Enrico Blanzieri (Uni. of Trento, Italy): *A Multi-Agent System for Knowledge Management Based on the Implicit Culture Framework.*
- Paul Marrow (British Telecom, UK): *Adaptive Information Agents: An Industrial View.*
- Pedro Figueiredo (ADETTI, Portugal): Salt & Pepper Emotional Learning.
- Rune Gustavsson (BTH, Sweden): Coordination as Process Algebras.

During EUNITE 2003 Annual Symposium ALAD SIG arranged a special session "Agent Technologies for Real World Problems" where following presentations were given:

- Attention-Driven Artificial Agents. Themis Balomenos, Nicolas Tsapatsoulis, Stefanos Kollias, Stathis Kasderidis, John G. Taylor
- Multi-Agent Planning with Planning Graph. The Duy Bui, Wojciech Jamroga
- Multiresolution Search Agents: a Review. Marc Thuillard
- MAS for Production Planning: CTU experience. Olga Stepankova, Alex Riha, Jiri Vokrink, Vladimir Marik, Michal Pechoucek
- Multiagent architecture for intelligent traffic management in Bilbao. Josefa Z. Hernandez, Francesco Carbone, Ana Garcia-Serrano (paper presentation by Alberto Ruiz).

4.2 Other Networks

The co-operation with other networks took place by active participation in different symposiums and meetings.

NoE in Neuroinformatics (Neuro-IT) was introduces in the EUNITE General Assembly 2002 and in the opening of 2002 Annual Symposium Prof. Alois Knoll, Technische Universität München was invited to give a talk about "A Network of Excellence at the Interface between Cognitive/Neurosciences and Information Technology".

MONET network was introduced in EUNITE General Assembly Meeting 2003 from Iain Russel from the University of Wales, U.K. (Monet: A Network of Excellence on Model Based Systems).

EUNITE Scientific Director participated in KDDNet event on August 20, 2002 in Helsinki, introducing EUNITE as one of nine NoEs presented (European Projects Presentation Day) and EUNITE Co-ordinator participated in FET Neuro-IT Workshop in Leuven, Dec. 3, 2002 introducing EUNITE activities.