The AMI Newsletter

Funded by the 6th European Framework Programme

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AMI @ a glance

AMI (Augmented Multi-party Interaction) is a European Integrated Project (IP) launched on January 1st, 2004, for an inital period of 36 months, under the 6th Framework Programme (FP6) in the field of Information Society Technology (IST). AMI brings together 15 world class academia and industry partners, and aims at performing high quality research, training and technology transfer in the area of new multimodal technologies to support human interaction in the context of smart meeting rooms and remote meeting assistants.

Research Activities

In the context of human interaction, AMI will target the following research themes:

• **Database:** collection, annotation and distribution over the Web of a large corpus of multimodal meeting data.

• **Meeting dynamics and human-human interaction modelling:** including definition of meeting scenarios, analysis of human interaction and multimodal dialogue modelling.

• **Multimodal recognition:** including processing of speech (speech recognition of non-native English, speaker segmentation and tracking), and visual modalities (gesture recognition, handwriting recognition, object tracking).

• **Integration of modalities and coordination among modalities:** including (asynchronous) multi-channel processing (e.g. audio-visual tracking) and multimodal dialogue modelling.

• **Content abstraction and understanding:** incorporating the outputs of video, audio and multimodal recognisers (including multimodal structuring, summarisation and information retrieval).

• **Meetings browser:** presentation of multimodal data based on browsing and summarisation, development of an offline multimodal meetings browser, and an online remote meeting assistant.

Training Activities

AMI has set-up a training programme, including internships and international exchanges, to provide opportunities for undergraduates, masters students, Ph.D. students and postdoctoral researchers to take part in the project. The consortium is already calling for applications (full details to be found at www.dcs.shef.ac.uk/AMI/training.htm).

Technology Transfer Activities

Within the framework of the project, particular attention will be payed to technology transfer activities through exploration and evaluation of advanced end-user applications. These activities will be managed by DFKI, and supported by the AMI Industrial Advisory Board, currently being set-up.

AMI Partners

Non-Profit Research Institutes

IDIAP Research Institute (IDIAP), CH
AMI Scientific Coordinator
www.idiap.ch

German Research Centre for AI (DFKI), D
AMI Technology Transfer Coordinator
www.dfki.de

International Computer Science Institute, Berkeley/CA (ICSI), USA
www.icsi.berkeley.edu

Netherlands Organisation for Applied Scientific Research (TNO), NL
dis.tpd.tno.nl/mmt, www.tm.tno.nl

Academic Partners

University of Edinburgh (UEDIN), UK
AMI Administrative Coordinator
www.iccs.informatics.ed.ac.uk

Sheffield University (USFD), UK
AMI Training Coordinator
www.dcs.shef.ac.uk/spandh

Brno University of Technology (BUT), CZ
www.fit.vutbr.cz

Munich University of Technology (TUM), D
www.mmk.ei.tum.de

University of Twente (UT), NL
parlevink.cs.utwente.nl

Industrial Partners

FastCom Technology S.A. (FC), CH
www.fastcom.ch

Philips Consumer Electronics BV (PHI), NL
www.philips.com

Novauris Laboratories Ltd (NOV), UK
www.novauris.com

RealVNC Ltd (VNC), UK
www.realvnc.com

Spiderphone S.A (SPI), CH
www.spiderphone.ch

Standard Representative

WWW Consortium (W3C), F
www.w3.org/2002/mmi

Hosting Industrial Site

Canon Research Center Europe, UK
www.cre.canon.co.uk

AMI Kɪᴄᴋ-Oғғ Mᴇᴇᴛɪɴɢ

Brussels - January 28, 2004

On January 28, 2004, several representatives of each of the 15 AMI partners gathered together in Brussels for the official kick-off of the project.

Beyond the social aspects of direct contacts to initiate dynamic collaborations, this kick-off meeting offered all the participants a good opportunity to share a common view of the project, while discussing in more detail the project objectives in terms of research, training, and technology transfer.

Regarding research, each WP manager presented a consolidated view of their WP, based on information gathered prior to the meeting.

Training and technology transfer measures were also discussed.

Finally, participants also focused on the current set up of the AMI public and private web site, which will be presented in more depth in forthcoming newsletters.

Meeting participants: **UEDIN**: Steve Renals, Johanna Moore, Jean Carletta, Caroline Hastings and Mike Sparks **DFKI**: Tilman Becker **ICSI**: Barbara Peskin **TNO**: Wilfried Post and Kraaij Wessel **BUT**: Pavel Zemcik **TUM**: Gerhard Rigoll **IDIAP**: Hervé Bourlard, Iain McCowan and Nancy-Lara Robyr **USFD**: Phil Green, Steve Whittaker, Vinny Wan and Gillian Callaghan **UT**: Rieks op den Akker, Anton Nijholt Prof. and Franciska de Jong **FC**: Nicolas Pican and Gael Le Coz **PHI**: Kees Tuinenbreijer **VNC**: Andy Harter **SPI**: Pierre Wellner **W3C**: Max Froumentin and Philipp Hoschka.

Work-package (WP) Managers

WP1: **Meeting modelling and scenario definition - Rieks op den Akker** (UT) infrieks@cs.utwente.nl

WP2: **Infrastructure, data collection & management - Iain McCowan** (IDIAP) mccowan@idiap.ch

WP3: **Data annotation and standardization - Jean Carletta** (UEDIN) J.Carletta@ed.ac.uk

WP4: **Audio-video processing - Marc Al-Hames** (TUM) alh@mmk.ei.tum.de

WP5: **Multimodal Structure and content analysis - Tilman Becker** (DFKI) Tilman.Becker@dfki.de

WP6: **HCI, presentation components & demonstrators - Kees Tuinenbreijer** (Philips) kees.tuinenbreijer@philips.com

WP7: **Evaluation and planning - Steve Renals** (UEDIN) s.renals@ed.ac.uk

WP8: **Management and planning - Hervé Bourlard** (IDIAP) bourlard@idiap.ch

WP9: **Technology transfer - Tilman Becker** (DFKI) Tilman.Becker@dfki.de

WP10: **Training - Phil Green** (USFD) P.Green@dcs.shef.ac.uk

Visit the AMI public & local web pages

www.amiproject.org

TECH NEWS

Since the project kick-off in late January, there have been a number of meetings to initiate work in the technical work-packages. As a result, much progress has been made in specifying tasks and identifying key dependencies within and between work-packages. Following is a brief summary of the meetings held to date, including their major outcomes.

WP1 (Meeting Modeling and Scenario Definition)

12-13 February 2004, UEDIN.

There is a heavy dependence on the output of WP1 within the other AMI WP's, and particularly in the early project phases, there is a strong need for feedback from other WP's to WP1. With this in mind, the WP1 kick-off aimed at the early resolution of a number of key issues related to meeting modelling and scenario definition. The primary goal of the meeting was to define Meeting Scenarios for the AMI data collection. Requirements from signal processing, machine learning, content analysis, organizational psychology, sociology and HCI were discussed. It was decided that series of Design Project Meetings (involving a group holding periodic meetings to work through a design process) could cater for all these requirements in some way, and should thus provide the basis for the 'core' AMI meeting corpus. A proposal for these scenarios has been circulated to other work-packages for feedback. Other goals of the meeting were to commence work on defining a Meeting Glossary, a Meeting Model, and an Annotation Scheme for the project. Draft documents for each of these have been written and are currently being refined in response to feedback from partners.

WP6 (HCI, Presentation Components & Demonstrators)

8-9 March 2004, IDIAP.

Agenda items for the meeting included: feedback to WP1 on scenarios and annotation needs, how to assess user requirements, how to evaluate browsers, and how to integrate software components. Discussions on user requirements focused on the definition of users, with a major distinction in user types being drawn between meeting participants and non-participants. In general, it is expected that participants will want to retrieve specific pieces of information, while non-participants may be more interested in obtaining a general overview of the

meeting. A draft document listing potential user groups for AMI, along with means for eliciting user requirements, will be circulated in early April. Different methods of evaluating the eventual meeting browsers were discussed, including a proposal for obtaining an objective, replicable score that will allow the effectiveness of different interfaces to be compared. More subjective evaluation methods, such as user questionnaires, interviews, etc, were also discussed. Two documents are currently being drafted regarding evaluation: one specifying the objective browser score, and a second addressing other evaluation means. Time was also spent discussing software architecture, in order to facilitate integration of browsers and components developed at different sites. A work-group was formed to discuss the issue in more detail, with aims of achieving integration in terms of server-side functionality (APIs to access data, data formats, etc), as well as defining a position on client integration.

WP5 (Multimodal Structure and Content Analysis)

11-12 March 2004, DFKI.

The aims of the WP5 research include many of the most ambitious aspects of the AMI project, and require close integration between partners, as well as with other WP's. In order to focus the research efforts and facilitate integration from the outset, the major goal of the kick-off meeting was therefore to clearly define the tasks in the WP5 work-plan, along with involved partners in each case. The meeting began with presentations from all partners, familiarising others with related previous work, and listing the tasks they intended to focus on in AMI. Based on these presentations, most of the discussions then focused on producing a consolidated list of tasks for the 18-month work-plan. In many cases, partners used different terms to refer to similar tasks, so overlaps were identified and common terms agreed upon. Tasks were broadly categorised as segmentation (breaking into a sequence of non-overlapping segments), structuring (multi-class, potentially hierarchical, classification of segments), summarisation (data reduction and restructuring), or information retrieval. The resulting list has been circulated, and each partner has been asked to briefly describe their contribution and nominate the key contact person at their site for each task. These inputs will be compiled and posted on the intranet by early April. The meeting also included presentations from work-packages 1, 4 and 6 to help understand key dependencies.

For more details, full minutes of the meetings are available on the AMI WPs intranet.

Joint AMI / PASCAL / (IM)2/ M4 Workshop on

MULTIMODAL INTERACTION AND RELATED MACHINE LEARNING ALGORITHMS

Centre du Parc (www.hotelduparc.ch), Martigny, Switzerland, 21–23 June 2004

PASCAL (Pattern Analysis, Statistical Modelling and Computational Learning, **www.pascal-network.org**) is a newly lauched (December 2003) European Network of Excellence (NoE) funded under Framework FP6 as part of its IST program.

(IM)2 (Interactive Multimodal Information Management, **www.im2.ch**) is a Swiss National Center of Competence in Research (NCCR) aiming at the advancement of research, and the development of prototypes, in the field of man-machine interaction.

M4 (Multi-Modal Meeting Manager, **www.m4project.org**) is an EU IST project launched in March 2002 concerned with the construction of a demonstration system to enable structuring, browsing and querying of an archive of automatically analysed meetings.

Sponsoring

This workshop will be jointly sponsored by the AMI, PASCAL, IM2 and M4 projects, which means that there will be no registration fees for members of those projects. In addition, a number of student grants to cover extra cost, such as travel and housing, may also be available on request.

Call for papers

In the framework of this workshop, all participants (AMI, PASCAL, IM2, M4), as well as external contributors, are invited to submit full papers for oral or poster presentation in the following areas of interest, related to the context of meetings:
• Human-human communication modeling
• Speech and visual processing
• Multi-modal processing, fusion and fission
• Multi-modal dialog modeling
• Human-human interaction modeling
• Multi-modal data structuring and presentation
• Multimedia indexing and retrieval
• Meeting structure analysis
• Meeting summarizing
• Multimodal meeting annotation
• Machine learning algorithms applied to the above

Programme Committee

• Samy Bengio, IDIAP
• Hervé Bourlard, IDIAP
• Jean Carletta, University of Edinburgh
• Phil Green, University ofSheffield
• Jan Larsen, Technical University of Denmark
• Nelson Morgan, ICSI Berkeley
• Erkki Oja, Helsinky University of Technology
• Barbara Peskin, ICSI Berkeley
• Thierry Pun, University of Geneva
• Steve Renals, University of Edinburgh
• John Shawe-Taylor, University of Southampton
• Steve Whittaker, University of Sheffield

Invited Speakers

• **Bill Buxton, Buxton Design**
• **Jordan Cohen, VoiceSignal**
• **Roddy Cowie, Queen's University, Belfast**
• **Stephen Cox, University of East Anglia**
• **Jonathan Foote, FX Palo Alto Laboratory**
• **David Nahamoo, IBM Research**
• **Nuria Oliver, Microsoft Research**
• **Yorick Wilks, Sheffield University**

Important dates

Submission deadline: **22 April 2004**
Notification of acceptance: **15 May 2004**
Workshop date: **21-23 June 2004**

For further information on the workshop and on guidelines for submissions, please visit:

www.idiap.ch/events/workshop-mlmi04