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PROJECT FINAL REPORT

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Project acronym: METALOGUE

Project title: Multiperspective Multimodal Dialogue: dialogue system with metacognitive abilities

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1. Final publishable summary report

1.1 Executive Summary

The Metalogue project brought together three research communities – Cognitive Modelling, Multimodal Human-Computer Interaction and Technology Enhanced Learning – to research and develop a meta-cognitive multimodal dialogue system and apply it in the field of Technology Enhanced Learning. In the Metalogue context, metacognition refers to the ability to plan, sense, monitor, reflect, and react appropriately to strategies of oneself and the interlocutor(s). Metalogue centred its efforts around a scenario by which an interlocutor, referred to as a learner, practiced multiple-issue bargaining within the scope of smoking ban thereby striving for a measurable, for both interlocutors, best – pareto optimal – result.

Metalogue's research and development has been data-driven, that is, it is based on studying human-human interaction: early in the project, young parliamentarians' negotiations were recorded using video, kinect and audio. The recordings were transcribed and annotated with, for instance, dialogue acts forming the worldwide first fully ISO compliant corpus: the Metalogue corpus. The Metalogue corpus has been made available to the research community via the Linguistic Data Consortium and has served as a basis for the design and acquisition of computational models, which were used for building speech recognition, semantics and dialogue act classification as well as cognitive models that were finally integrated into different tools and systems. One of the major project objectives and project achievements has been the development of cognitive models and subsequent design and incorporation into a multimodal dialogue system. Metalogue has successfully developed and applied a methodology that allows for building such cognitive agents that are capable of reflecting and reasoning about other agents' – humans' – behaviour.

A learner's acquisition of metacognitive skills is structured through a project-developed instructional design methodology referred to as a "user journey". Within this framework, the learner has access to so-called "in-action" as well as "about-action" feedback tools that are used to estimate and help the learners' performances. One such tool is the presentation trainer, which received several international conferences' best papers/demonstration awards. The project's battery of technologies has been demonstrated to increase learners' meta-cognitive skills.

Finally, the Metalogue systems have undergone substantial evaluations. For instance, the Metalogue Multimodal System evaluation gathered 50 participants from three sites in three different countries. Whereas a large majority of the users agreed that they would be happy to make use of these systems in the future, the perhaps most impressive result was that among the 44 participants that completed the evaluation we counted a 84% task completion whereby each participant completed three negotiations.

1.2 Background

Multimodal Dialogue Systems based on natural language are increasingly becoming the most attractive human-machine interface and finds applications starting from chat bots and information offices, cars to smart houses and smart working environments. Such interfaces offer a mode of interaction that has certain similarities with natural human communication by using a number of input and output modalities which people normally employ in communication, e.g. speech, gesture, facial expressions, pointing devices, etc. Some of these interfaces will advance to the incorporation of multimodality into virtual and augmented reality environments, e.g. using embodied conversational agents.

At the same time, existing dialogue systems, by common agreement, do not yet show interactive

behaviour that is natural to its human users, and do not have the flexibility to exploit the full potential of spoken and multimodal interaction. In many instances people refuse to use available multimodal language-based interfaces because they are perceived as being too artificial and inconvenient:

- computer dialogue systems do not have the rich experience and background knowledge that humans have and are typically not capable of engaging in in-depth discussions
- humans are able to process and perform several actions — both task-related and communicative ones — simultaneously whereas dialogue systems typically are not. If this happens, it mostly happens by accident rather than by design
- other than computer-based systems, humans have meta-cognitive abilities, that is, they are able to monitor, assess and reason about their own and their partner's performance

The Metalogue project has devoted its efforts to address these—and other, related—issues. In order to demonstrate progress, a scenario has been chosen where persons can train their metacognitive skills within the scope of smoking ban: a state representative and a representative from the industry will bargain multiple issues. To do so, the project has developed several tools that allow persons to understand meta-cognition, how to perform presentations and, finally, how to combine these skills to interactive bargaining with the avatar Meta using predominantly spoken language.

1.3 Objectives

Metalogue's overall goal has been to develop and evaluate interactive multimodal systems and tools that implement behaviour natural to human users. The Multimodal Metalogue System, see Figure 1 should be flexible enough to exploit the full potential of multimodal interaction and should be evaluated in a multi-perspective educational dialogue setting. The key to achieving the Metalogue's vision of a future dialogue system has been to equip the system with meta-cognitive capabilities. A conversational agent provided with sufficient meta-cognitive skills will be able to:

1. **adapt** its dialogue behaviour over time according to the interlocutor's knowledge, attitude, and competence, and
2. **predict** other people's knowledge and intentions and show pro-active dialogue behaviour, thus, being more "human" than any known artificial conversational system.

In order to allow for a deeper understanding of meta-cognitive processes and the nature of the acquisition of such skills, the Metalogue system should have shared and varied responsibilities of observing, monitoring, experiencing and executing different tasks, by presenting similar materials in multiple contexts enabling self-reflection, by becoming aware of different strategies and how they work.

1.3.1 Application areas

Metacognition is critically important in negotiation, for instance because it significantly influences decision-making processes. It has been suggested that persons having capacity to reason about other interlocutor's minds, have an advantage in strategic games and negotiation. Consequently, Metalogue devoted attention to negotiation tasks thereby aiming for two main types of negotiation tasks and for two main types of target users:

Figure 1: The Multimodal Metalogue System in action. The system's persona, the avatar Meta perceives and interprets a learner's actions by means of audio (speech & prosody), video (body posture, gestures & mimics) and responds accordingly.

Young entrepreneurs and policy debating: young entrepreneurs and junior politicians will improve their debating skills with help of the Metalogue systems. The topic is restricted to policy issues within the scope of smoking ban. Use cases are related to educational scenarios, having as users young trainees related to the Youth Parliament & the Hellenic Parliament Foundation's educational activities along with their teachers. The project observes and improves the meta-cognitive abilities of the trainees, creating societal abilities and skills of the new generation of citizens, introducing them into the modern world issues, including rules, obligations, rights, social behaviour and responsibility.

Call centre employees and customer negotiations: call centre employees in customer negotiations will improve their skills using the Metalogue systems with a focus on govern- mental service provision. The systems should be designed to deliver a realistic training experience and to make it possible to give quantitative evaluations of how well a given call went. The customer service domain allows room for negotiation and is a prudent choice to test the systems.

The main Metalogue application area is education and tutoring with a multi-perspective support. In addition to above, the reasons to choose this application area include:

- having better meta-cognitive skills can help learners learn better and self-regulate their learning across domains and contexts;
- the educational dialogue and tutoring interventions provide useful constraints and a dia- logue framework. Simply saying, it is feasible to attain the ambitious goal of creating a dialogue system, which looks "human", in such setting.
- educational dialogue systems have potentially a high economic and social impact, given the high recognition of lifelong learning as fundamental to Europe's long-term success.

The simplified architecture of the Metalogue dialogue system is presented on the Figure 3. Upper left there are different input modalities, such as speech and gestures, lower left contain the output modalities. Input modalities are interpreted, that is given a semantic and then fused. During fusion, the discourse context is consulted producing a situation dependent interpretation, e.g. a referring

expression — “that” — either refers to a previous suggestion or a pointing gesture. The dialogue manager is responsible for generating (abstract) system reactions that are divided onto different output modalities by the fission module. Finally, the Meta-Cognitive module allow for modelling strategies.

Figure 2: The Multimodal Metalogue System in different roles during tutoring.

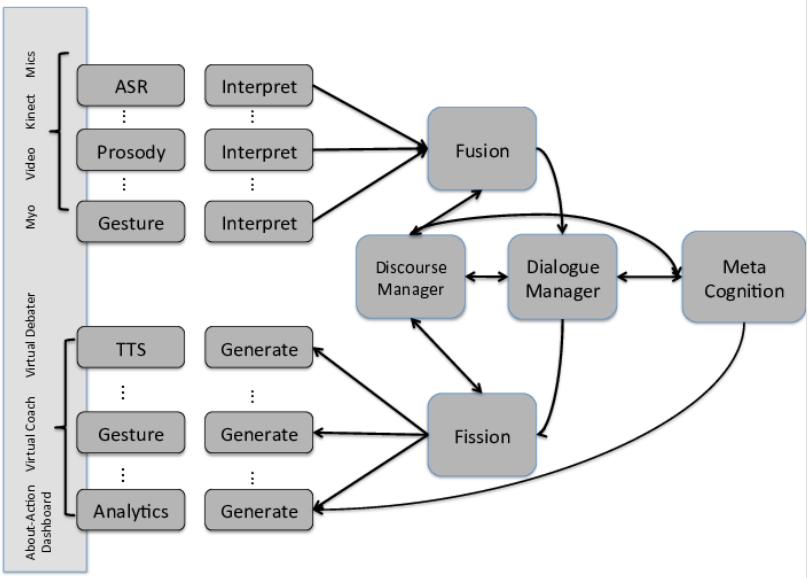

Figure 3: A simplified architecture of a symmetric multimodal system as deployed in Metalogue.

1.3.2 Vision

Meta-cognitive skills for both the system and the user is of importance in different settings, see Figure 2. They play different roles in the training environment, for example:

1. The system passively observes tutoring session between a user and a tutor. We refer to this as "observing mode" since the system keeps track of human-human dialogue without interfering in it. The complete discourse is recorded for further analysis, see Figure 2 top left.
2. The system observing "scripted" tutoring sessions thereby has possibility to intervene, asking relevant questions and influencing the tutoring process by instruct the user to change his behaviour/performance, see Figure 2 top right.
3. The system re-plays a user's performance in real time so that the user can observe his/her own performance and the user has the opportunity to discuss it with the tutor. The system will additionally allow for re-entering the tutoring session at any point, thus improving the performance as it went wrong, see Figure 2 middle left.
4. The system actively plays the role of one of the dialogue participants. Human tutor observes, evaluates and guides, see Figure 2 middle right.
5. The system acts as a tutor thereby guiding multiple users, see Figure 2 lowest picture.

A multimodal conversational system that can engage in negotiations with learners will have to make use of a wide array of different modalities, such as spoken natural language, facial expressions, body posture and bid-sensory data. Where appropriate, modalities should be symmetric: a modality available on the input side for user input will also have a counterpart on the output side. That means that the ability to use facial recognition should be complemented by the generation of the virtual characters' facial expressions allowing for a more natural interaction. In multi-party settings, that is interactions with more than two interlocutors, some communication channels may be exclusive to two communication partners, e.g. speech, but other participants can still interact in parallel, e.g. using gestures.

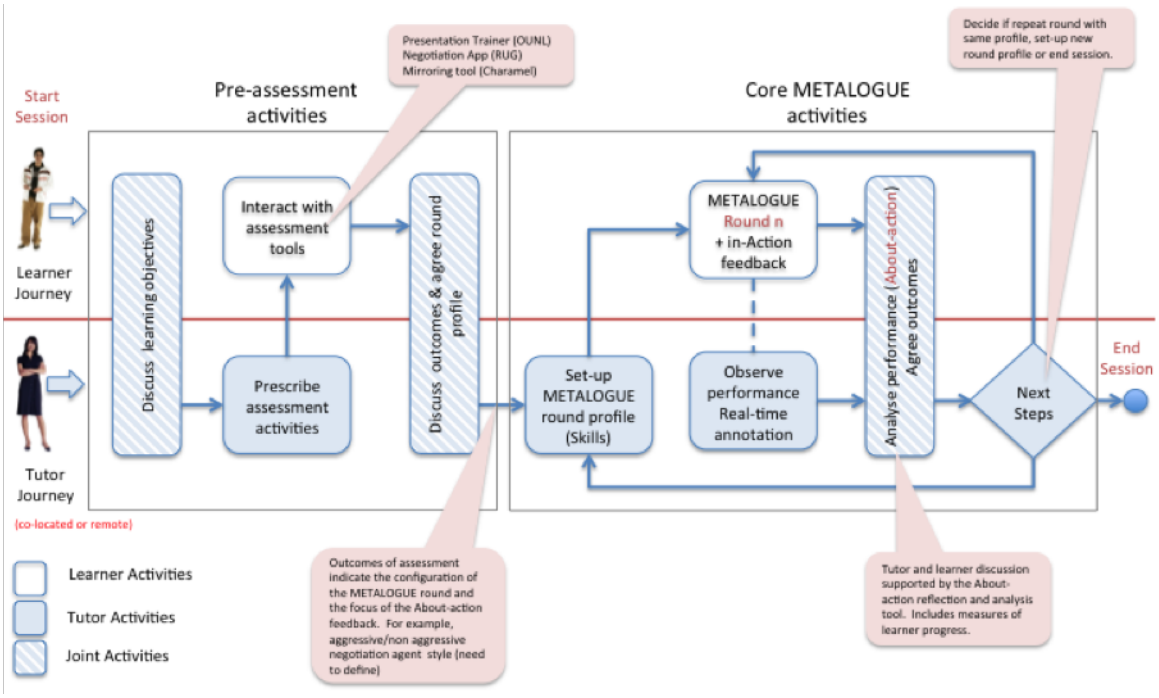

Figure 4: A tutor guided "user journey". The top half of the figure represents the learner actions, the lower that of the tutor. Initially, the learner and tutor interacts with the purpose of defining the learner's objectives. It follows prescription and interaction with pre-assessment tools after which the learner and tutor agree on the learner's tutoring objectives. It follows a sequence of sessions with the Metalogue system including set-up, training and performance analysis. At the end of each round, a

joint decision on continue/exit is taken based on the system's and tutor's assessment of the learner's performance. The system deploys two novel feedback mechanisms: "in-action feedback" providing real-time feedback during the interaction and "about-action feedback", a dashboard containing the complete interaction decorated with system-detected hot spots of the learners inappropriate behaviour.

1.3.3 User Journeys

To facilitate and structure learning, the project has developed so-called "user journeys", see Figure 4. User Journeys constitute a methodology or algorithm by which a learner's knowledge gain is controlled by interaction with training systems and/or interaction with a tutor. Initially, the learner's knowledge is estimated and then increased by possibly multiple training sessions. Metalogue has developed three journeys, namely "Tutor Guided", "Learner Initial Self Assessment" and "Wholly Learner Self Directed". Figure 4 depicts the Tutor Guided Journey by which the learner's knowledge acquisition is conducted by a tutor. The other two journeys serve the purpose of less tutor involvement where the latter is completely tutor-free.

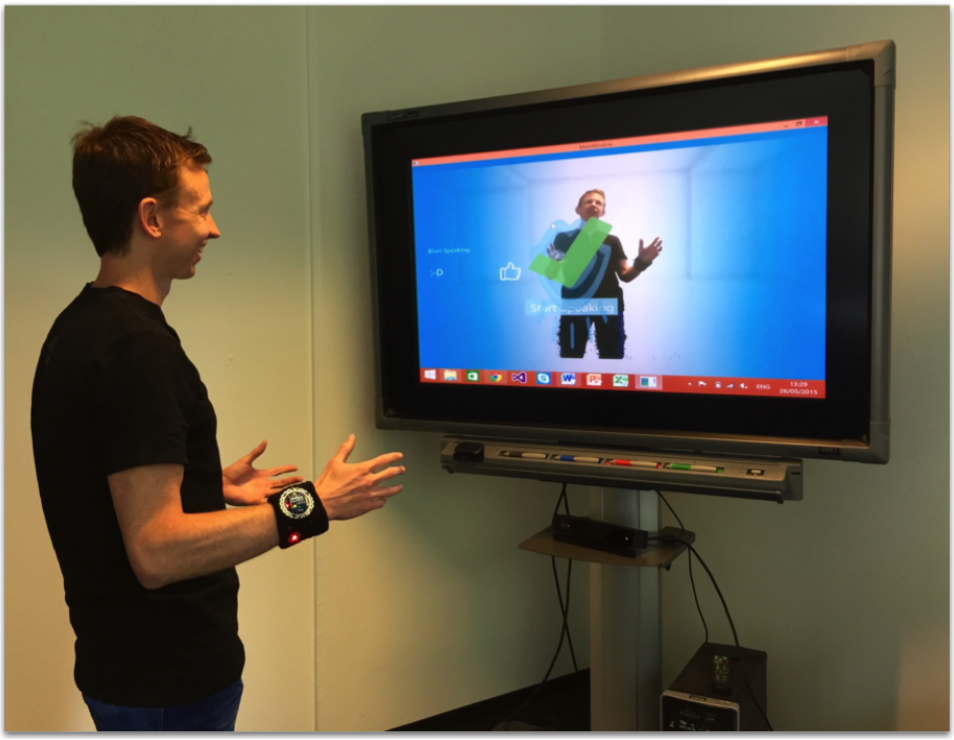

Figure 5: The Presentation Trainer. A learner receives feedback on a variety of performance indicators: Posture, Volume, Gesture, Cadence, Phonetic pauses, "Dancing"

For the purpose of assessing the learners' performance, several tools have been developed, such as the "presentation trainer", see Figure 5. In order to practice meta-cognitive skills, there are several "meta-cognitive apps", see Figure 6 which can be tailored to new scenarios.

1.3.4 Research and Development Methodology

The work within the project was organised around an iterative R&D demand-driven methodology as used in User-Centred Design, where a cycle consisting of four phases were executed: requirements - implementation - testing. Initially, the project recorded, transcribed and annotated role plays, see Figure 7. Early in the project, "zero-versions" of the technical systems were established and then incrementally improved through continuous integration efforts. Towards the end of the project, all systems underwent substantial evaluations with subjects previously not involved in the project. The

Metalogue Multimodal System evaluation gathered 50 participants from three sites in three different countries. Whereas a large majority of the users agreed that they would be happy to make use of these systems in the future, the perhaps most impressive result was that among the 44 participants (88%) that completed the evaluation, we counted a 84% task completion whereby each participant completed three negotiations.

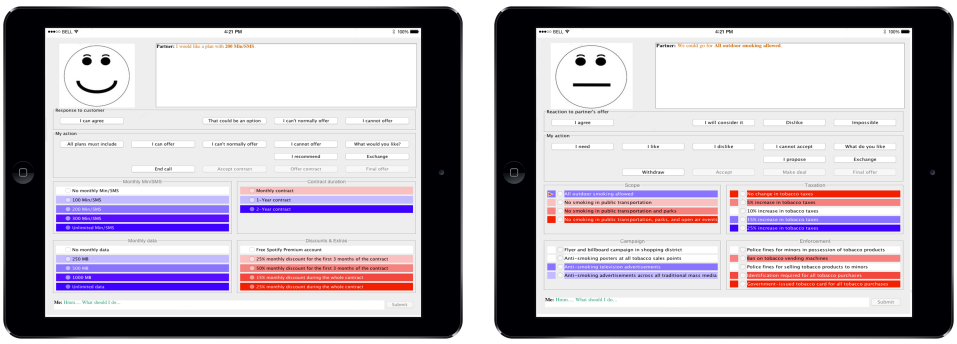

Figure 6: Screen shots of two Meta-Cognitive Apps

Figure 7: Initial Role Play. Young learners performed a pre-defined negotiation, which was recorded, transcribed and annotated forming the Metalogue Corpus. The corpus served as the basic foundation for models in the technical system.

The foundation of the Metalogue research and development consisted of a large data collection and annotation exercise. Following the scenarios as laid out above, negotiations— role plays — were conducted and video-recorded. These recordings have been transcribed and annotated with information, such as "dialogue acts" forming the "Metalogue Corpus". The Metalogue Corpus is the first fully ISO compliant corpus[2] worldwide. This has, along with other corpora, served as a basis for machine learning thus used to train models used throughout the Metalogue systems. Models range from language models for speech recognition (ASR), dialogue act and syntactic-semantic

[2] Primary data encoding: Text Encoding Initiative, TEI; dialogue acts including functions, semantic content and links: ISO 24617-2 dialogue acts; ISO 24617-8 discourse relations

classification to models for dialogue management and meta-cognitive computation, see Figure 8. The Metalogue Corpus has been provided to the research community through publication via the Linguistic Data Consortium (LDC[3]).

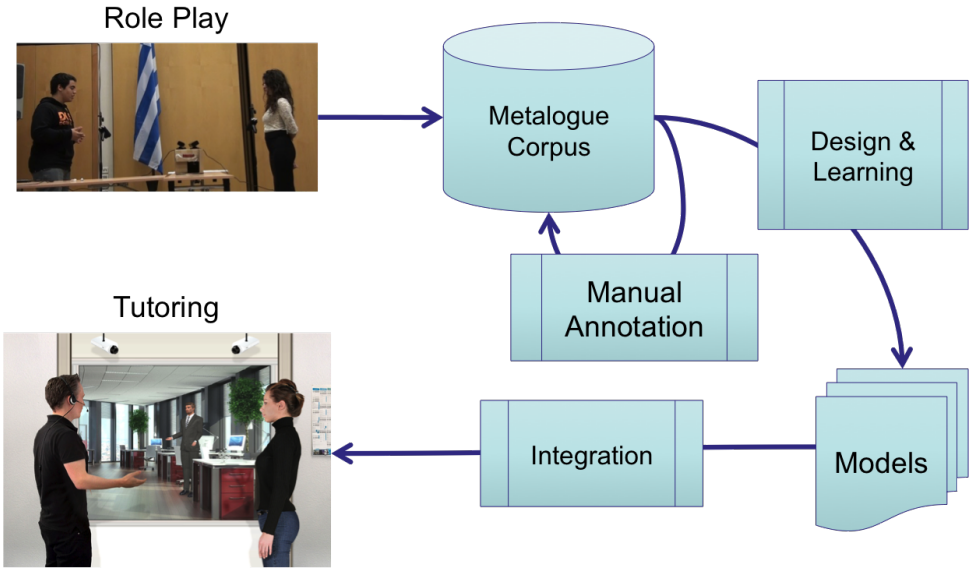

Figure 8: Methodology for system development: Initially, the system is bootstrapped by means of role plays that are recorded, transcribed and annotated. Through machine learning, different models have been acquired and finally integrated into the Metalogue System.

1.4 Scientific and Technological Results

Below, the most important scientific results and results beyond state of the art are grouped together around the technology itself or referring to methodology etc.

Corpus & Methodologies

- Annotated video recordings of spoken behaviour and debating performance.
- Integrated the recordings and transcriptions as a corpus for release through International Data Distribution Agencies.
- Metalogue Multi-Issue Bargaining corpus fully ISO compliant primary data encoding (TEI) and annotations (ISO 24617-2 dialogue acts; ISO 24617-8 discourse relations); LDC distribution
- **Beyond STAR** Developed a general methodology to build artificial agents that can make decisions about past experiences and use those experiences to reason about other agents, and to reflect on human behaviour
- **Beyond STAR** Developed and published a corpus of video recordings for training advanced systems of metacongition for monitoring and guiding spoken behaviour during debates and public engagement. This asset also tested and proved the performance of our Metalogue dialogue system in real-time use. The corpus is fully ISO compliant: primary data encoding (Text Encoding Initiative, TEI) and dialogue acts including functions, semantic content and links (ISO 24617-2 dialogue acts; ISO 24617-8 discourse relations), see D5.2, 5.3, 5.4 and D5.5

Input Modalities & Interpretation Modules

- **Beyond STAR** Adaptable Automatic Speech Recognition System performing in terms of

[3] https://www.ldc.upenn.edu

Word Error Rate (WER) of 20.12% (online system), see D5.1

- A novel semantic interpreter based on HMMs and Viterbi search which segments the input signal sequence integrated in the SynSem module: F-score achieved 0.7 outperforms CRF on the same task (F-scores of 0.63), see D5.2
- **Beyond STAR** SVM-based DA classification in multidimensional space performance in terms of F-scores of 0.86 on full processed segments (STAR average 0.76, see [14] highest reported for such task 0.82, domain independent pattern matching variant integrated in the Metalogue demo system; incremental chunk-based using CRFs on manual transcriptions – F-scores of 0.84; incremental token-based (0.77) and after late fusion (0.8) on real ASR output - research prototype, not integrated in the Metalogue demo system, outperforms STAR by broad margin (F-scores 0.71), see D5.4 and D4.2 for incremental procedure outline, Amanova et al. (2016) and scientific paper on incremental DA classification (submitted)
- Macro metacognitive control achieved through the integration of Task Agent; no need of external domain/task data bases or ontologies; cost effective and efficient solution by integrating interactive cognitive agent technology proposed and evaluated, see D5.4
- Integrated multimodal sensor technologies and systems for cognitive state sensing from speech and stance information.
- Developed prosody modules for inferring metacognition from voice and speech dynamics.
- Tested early and late fusion of multimodal data for components of the Metalogue dialogue engine.
- Adaptable Automatic Speech Recognition System tailored for anti-smoking debate and negotiation domain and English non-native speakers
- Mark-less robust gestures and body movements tracking
- A novel semantic interpreter based on HMMs and Viterbi search which segments the input signal sequence integrated in the SynSem module
- Interpretation modules for each non-verbal modality (posture/gesture, prosody/emotion prosody),
- Discourse modelling, context resolution and low level data fusion with unified representation
- Micro-metacognitive control strategies built in Dialogue Act (DA) recognition module (converted to negotiation domain independent DAR based on flexible extendable pattern matching and bootstrapping techniques; used also for user simulations); impact of different increment size (tokens vs syntactic, semantic and prosodic chunks) on the overall system performance assessed, combination of local classification with late fusion method for final DA decision
- Adaptive multi-agent DM architecture with Task Cognitive Agent integrated for macrometacognitive control + recovery, validity and feedback strategies incorporated.

Metacognition

- Used the general method to build an agent that plays the Game of Nines against a human opponent
- Collected empirical evidence that playing the Game of Nines agent promotes reasoning about opponents, and adjust strategies depending on the opponent.
- Showed that the game-of-nines agent passes the Turing Test (when restricted to just playing the game).
- Used this method to build an agent that negotiates in the smoking ban scenario, both as a stand-alone application, and as part of the Metalogue system
- Augmented the smoking-ban application with a tutor that evaluates the human player's moves

- Built a stand-alone application that can negotiate in a call-center scenario.

Technology Enhanced Learning

- A literature review on the state of the art regarding the use of sensor based learning support.
- A stand-alone application the Presentation Trainer that can be used to train basic presentation skills individually and independently.
- Empirical evidence based on a set of experiments with different experimental conditions showing that the Presentation Trainer has a significant effect on the learners' motivation, confidence, self-awareness and performance with regard to their presentation skills.
- An expert study with the help of semi-structured interviews, it investigated and validated the feedback criteria for public speaking.
- Feedback Cubes as a prototype to research and develop a balanced ambient way to provide real-time feedback in a working setting.
- The Booth as a prototype to research if, prior to performing a potentially stressful task such as presenting or debating, it is possible to provide the users with exercises to get them into a powerful and resourceful emotional state.
- An instructional design blueprint and a set of user journeys integrating and/or aligning the instructional design and the design of in-action and about-action feedback from both the presentational and the cognitive model and with a multi-role perspective.
- Virtual Human-like Agent integrated in the learning environment
- Three different types of Computer Supported Learning Tools (CSLT) designed and integrated

Integration & Evaluation

- Developed a flexible and scalable programming language- and operating system neutral message passing system for the integration of heterogeneous software components. The final system demonstrator was based on five distinct computers: three Linux (including one Raspberry Pi) and two Windows computers.
- Successfully integrated the Metalogue Dialogue System and evaluated it in the operational environment
- System-wide evaluation of the Metalogue system using System Usability Scale (SUS) and RP
- Extensive usability evaluation on multimodal aspects.
- **Beyond STAR** a model for in- and about action feedback for public speaking and negotiation skills regarding aspects of their nonverbal communication, i.e. the use of voice and body language. The model is strictly based on sensor-based input. It balances the cognitive load of the user within the context of a complex task: (1) by constraining the immediate feedback to those features of nonverbal communication which can be acknowledged and, if necessary, corrected upon immediately; (2) by moderating, based on relevance and frequency, the density of feedback events (3) by visualizing the feedback events in an understandable non obtrusive way.
- **Beyond STAR** Experimental results on cognitive load from concurrent multimodal signals
- **Beyond STAR** Usability and metacognitive skills learning evaluation using seven questionnaire scales: (General Self-Efficacy Scale, General Self-Efficacy Scale, Interpersonal and Problem-solving skills and Civic Action from CASQ, Individual Readiness to Change, Mastery Goal Orientation, and RSQ.
- **Beyond STAR** Learning effectiveness measurements on perceived cooperativeness for engagement in metacognitive reasoning (participants considering the way their own behaviour influences

1.5 Project Contacts

Extensive set of project materials, as well as all contact information of the partnership is available on the project website: http://www.metalogue.eu/

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2. Use and dissemination of foreground

- Section A

The project dissemination activities, including the strategy, planning and results, are exhaustively described in the project deliverables related to work package 8:

- D8.5, D8.6 Dissemination plan
- D8.7, D8.8. Reports on Industrial workshops
- 3 Periodic Progress Reports

The full account of dissemination results covering scientific publications, event-based dissemination, dissemination towards research and towards industry is provided in the tables below.

Section A (public)

A1: LIST OF SCIENTIFIC (PEER REVIEWED) PUBLICATIONS, STARTING WITH THE MOST IMPORTANT ONES										
NO.	Title	Main author	Title of the periodical or the series	Number, date or frequency	Publisher	Place of publication	Year of publication	Relevant pages	Permanent identifiers[4] (if available)	Is/Will open access[5] provided to this publication?
1	*Economic transformation in Hungary and Poland'*		*European Economy*	*No 43, March 1990*	*Office for Official Publications of the European Communities*	*Luxembourg*	*1990*	*pp. 151 - 167*		yes/no
2	*Evaluation Methods for Metacognitive Skills Learning Dialogue System*	Spiliotopoulos, D., Petukhova, V., Koryzis, D.	HCII 2014, Proc. 1st Int. Conf. Learning and Collaboration Technologies		Springer-Verlag Berlin Heidelberg	Heraklion, Crete, Greece	2014	CCIS 435:162-166		
3	*Metalogue: A Multiperspecti ve Multimodal Dialogue System with Metacognitive Abilities for Highly Adaptive and Flexible Dialogue*	Alexandersso n, J., Girenko, A., Spiliotopoulos, D., Petukhova, V., Klakow, D., Koryzis, D., Taatgen, N., Specht, M., Campbell, N.,	10th Int. Conf. Intelligent Environments (IE'14)			Shanghai, China	2-4 July 2014			

[4] A permanent identifier should be a persistent link to the published version full text if open access or abstract if article is pay per view) or to the final manuscript accepted for publication (link to article in repository).

[5] Open Access is defined as free of charge access for anyone via Internet. Please answer "yes" if the open access to the publication is already established and also if the embargo period for open access is not yet over but you intend to establish open access afterwards.

	Management	Aretoulaki, M., Stricker, A., Gardner, M.								
4	Presentation Trainer: A Toolkit for Learning Non-verbal Public Speaking Skills	Schneider, J., Börner, D., Van Rosmalen, P. & Specht, M.	Proceedings of the 9th European Conference on Technology Enhanced Learning, EC-TEL 2014, Open Learning and Teaching in Educational Communities, Lecture Notes in Computer Science		Springer International Publishing	Graz, Austria	2014	Volume 8719, pp 522-525		BEST DEMO AWARD
5	Sensor Technology for Learning Support	Specht, M.	Bulletin of the IEEE Technical Committee on Learning Technology				2014	16 (), pp. 2-5		
6	Presentation Trainer: a Study on Immediate Feedback for Developing Non-Verbal Public Speaking Skills	Schneider, J., Börner, D., Van Rosmalen, P. & Specht, M.	Bulletin of the IEEE Technical Committee on Learning Technology				2014	16 (), pp. 6-9		
7	MILLA– Multimodal Interactive Language Learning Agent.	Cabral, Joao P., Nick Campbell, Shree Ganesh, Emer Gilmartin, Fasih Haider,	eNTERFACE 2014				2014			

		Eamonn Kenny, Mina Kheirkhah et al								
8	The Stochastic Simplex Bisection Algorithm	Samuelsson, C.	15th International Conference on Computational Science	June 1–3	Elsevier	Reykjavík, Iceland	2015	TBA	TBA	Yes
9	Tangible Interactive Ambient Display Prototypes to Support Learning Scenarios	Dirk Börner, Bernardo Tabuenca, Jeroen Storm, Sven Happe, Marcus Specht	9th International Conference on Tangible, Embedded, and Embodied Interaction	January 16 - 19, 2015	ACM	Stanford, USA	2015	pp. 721-726	http://dx.doi.org/10.1145/2677199.2687908	No
10	Augmenting the Senses: A Review on Sensor-Based Learning Support.	Schneider, J., Börner, D., van Rosmalen, P., & Specht, M	Sensors	2015	MDPI	Basel, Switzerland	2015	pp. 4097-4133	http://dx.doi.org/10.3390/s150204097	Yes
11	Stand Tall and Raise Your Voice! A Study on the Presentation Trainer	Schneider, J., Börner, D., Van Rosmalen, P. & Specht, M.	Proceedings of the 10th European Conference on Technology Enhanced Learning, EC-TEL 2015, Design for Teaching and Learning in a Networked World, Lecture Notes in Computer Science		Springer International Publishing	Toledo, Spain	2015	Volume 9307, pp 311-324	http://dx.doi.org/10.1007/978-3-319-24258-3_23	
12	Presentation Trainer: Polishing Your	Schneider, J., Börner, D., Van	Proceedings of the 10th European		Springer International Publishing	Toledo, Spain	2015	Volume 9307, pp 526-529	http://dx.doi.org/10.1007	BEST DEMO AWARD

	Communicatio n Skills	Rosmalen, P. & Specht, M.	Conference on Technology Enhanced Learning, EC-TEL 2015, Design for Teaching and Learning in a Networked World, Lecture Notes in Computer Science						/978-3-319-24258-3_52	
13	Presentation Trainer, your Public Speaking Multimodal Coach	Schneider, J., Börner, D., Van Rosmalen, P. & Specht, M.	Proceedings of the 17th International Conference of Multimodal Interaction, ICMI 2015		Association for Computing Machinery	Seattle, USA	2015			GRAND CHALLENGE PEOPLE CHOICE AWARD
14	Detection of Cognitive States and Their Correlation to Speech Recognition Performance in Speech-to-Speech Machine Translation Systems.	Akira, Hayakawa, Fasih Haider, Loredana Cerrato, Nick Campbell, and Saturnino Luz.	iNTERSPEECH		ISCA	Dresden, Germany	2015			
15	Analyzing Multimodality of Video for User Engagement Assessment.	Salim, Fahim A., Fasih Haider, Owen Conlan, Saturnino Luz, and Nick Campbell	Proceedings of the 17th International Conference of Multimodal Interaction, ICMI 2015		Association for Computing Machinery	Seattle, USA	2015			
16	Metacognition in the	Christopher A. Stevens, Niels	Proceedings of the 13th			Groningen, The	2015			

	Prisoner's Dilemma.	A. Taatgen, Fokie Cnossen	International Conference on Cognitive Modeling			Netherlands				
17	Instance-based Models of Metacognition in the Prisoner's Dilemma.	Christopher A. Stevens, Niels A. Taatgen, Fokie Cnossen	Topics in Cognitive Science				In Press			
18	High Level Visual and Paralinguistic Features Extraction and Their Correlation with User Engagement.	Fasih Haider, Salim, Fahim A., Saturnino Luz, Owen Conlan, and Nick Campbell	The 15th IEEE International Symposium on Signal Processing and Information Technology		IEEE	Abu Dhabi, UAE	9th Dec 2015			
19	Feedback Design in Multimodal Dialogue Systems.	Van Rosmalen, P., Börner, D., Schneider, J., Petukhova, V. & Van Helvert, J.	Proceedings of the 7th International Conference on Computer Supported Education Volume 2, pp 209-217,.			Lisbon, Portugal	23-25 May 2015			
20	Observing Coaching and Reflecting: A Multi-modal Natural Language-based Dialogue System in a Learning Context.	Van Helvert, J., Van Rosmalen, P., Börner, D., Petukhova, V. & Alexandersso n, J.	Proceedings of the Intelligent Environments Conference (IE15) IOS Press.			Prague	13-14 July 2015			
21	Designing a Learning	Emmanuel Ferreyra	Springer Book -			Santa Barbara	June 27 – July 1, 2016			

	Analytics Application to Improve Learner Success in Interactions Based on Multimodal Dialogue Systems	Olivares, Pierre Albert, Joy van Helvert, Michael Gardner	Communications in Computer and Information Science - Volume 621 2016 - Immersive Learning Research Network - Second International Conference, iLRN 2016, Proceedings, Editors: Colin Allison, Leonel Morgado, Johanna Pirker, Dennis Beck, Jonathon Richter, Christian Gütl, ISBN: 978-3-319-41768-4 (Print) 978-3-319-41769-1 (Online)							
22	Enhancing public speaking skills - an evaluation of the Presentation Trainer in the wild.	Schneider, J., Börner, D., Van Rosmalen, P. & Specht, M.	Proceedings of the 11th European Conference on Technology Enhanced Learning, EC-TEL 2016, Adaptive and Adaptable Learning, Lecture Notes		Springer International Publishing	Lyon, France	2016	Volume 9891, pp 263-276	http://dx.doi.org/10.1007/978-3-319-45153-4_20	

			in Computer Science							
23	The Booth: Bringing Out the Super Hero in You	Schneider, J., Börner, D., Van Rosmalen, P. & Specht, M.	Proceedings of the 11th European Conference on Technology Enhanced Learning, EC-TEL 2016, Adaptive and Adaptable Learning, Lecture Notes in Computer Science		Springer International Publishing	Lyon, France	2016	Volume 9891, pp 529-532	http://dx.doi.org/10.1007/978-3-319-45153-4_56	
24	Can you help me with my pitch? Studying a tool for real-time automated feedback.	Schneider, J., Börner, D., van Rosmalen, P., & Specht, M	IEEE Transactions in Learning Technologies	Accepted for publication	IEEE					
25	Presentation Trainer: What experts and computers can tell about your nonverbal communicatio n.	Schneider, J., Börner, D., van Rosmalen, P., & Specht, M	Journal of Computer Assisted Learning	Accepted with minor revisions	Wiley Online Library					
26	Observing Coaching and Reflecting: Metalogue - A Multi-modal Tutoring System with Metacognitive Abilities	Joy Van Helvert, Volha Petukhova, Christopher Stevens, Harmen de Weerd, Dirk Börner, Peter Van Rosmalen,	EAI Endorsed Transactions on Future Intelligent Educational Environments - Immersive Environments: Challenges, Research and				2016			

		Jan Alexandersson, Niels Taatgen	New Developments, volume 16:6, DOI: 10.4108/eai.27-6-2016.151525							
27	Modelling argumentative behaviour in parliamentary debates: data collection, analysis and test case	Volha Petukhova, Andrei Malchanau and Harry Bunt	In: Matteo Baldoni, Cristina Baroglio, Floris Bex, The Duy Bui, Floriana Grasso, Nancy Green, Mohammad Namazi, Masayuki Numao, Mercedes Rodrigo, Merlin Teodosia Suarez (eds.) International Workshops and Lecture Notes of the Principles and Practice of Multi-Agent Systems 2015 International Conference. Springer Lecture Notes in Computer Science, Springer, Berlin				2016			
28	Modelling	Volha	In				2016			

	Multi-Issue Bargaining Dialogues:Data Collection, Annotation Design and Corpus	Petukhova, Christopher Stevens, Harmen de Weerd, Niels Taatgen, Fokie Cnossen and Andrei Malchanau	Proceedings 9th International Conference on Language Resources and Evaluation (LREC 2016), Portoroz, May 25-28. ELRA, Paris							
29	Creating Annotated Dialogue Resources: Cross-Domain Dialogue Act Classification	Dilafruz Amanova, Volha Petukhova and Dietrich Klakow	In Proceedings 9th International Conference on Language Resources and Evaluation (LREC 2016), Portoroz, May 25-28. ELRA, Paris				2016			
30	Visual Cue Streams for Multimodal Dialogue Interaction	Dimitris Koryzis, Christos V. Samaras, Eleni Makri, Vasilios Svolopoulos and Dimitris Spiliotopoulos	AHFE 2016 Conference Proceedings Edited Springer Books (22 Volume Set)				2016			
31	"Metalogue: A Multimodal Learning Journey"	Dimitris Koryzis, Vasilios Svolopoulos and Dimitris Spiliotopoulos	9th ACM International Conference on PErvasive Technologies Related to Assistive Environments				2016			

			2016							
32	Attitude Recognition of Video Bloggers using Audio-Visual Descriptors	Haider F, Cerrato L, Luz S, Campbell N.	ACM ICMI MA3HMI			Tokyo	2016			
33	Active Speaker Detection in Human Machine Multiparty Dialogue using Visual Prosody Information	Haider, F., Luz, S., Campbell, N.	Proceedings of IEEE Global Conference on Signal and Information Processing 2016 (accepted)			Washington, D.C., USA	2016			
34	The ADAPT entry to the Blizzard Challenge 2016	Joao Cabral, Christian Saam, Eva Vanmassenhove, Stephen Bradley, Fasih Haider	Blizzard Challenge 2016 Workshop			Cupertino, CA, USA	2016			
35	Prediction of Emotions from Text using Sentiment Analysis for Expressive Speech Synthesis	Eva Vanmassenhove, Joao Cabral, Fasih Haider	Proceedings of 9th ISCA Speech Synthesis Workshop			Sunnyvale, CA, USA	2016			
36	Talking to a system and oneself: A study from a Speech-to-Speech, Machine Translation mediated Map	Hayakawa A, Haider F, Cerrato L, Luz S, Campbell N	Proceedings of Speech Prosody 2016			Boston, USA	2016			

	Task									
37	METALOGUE: Data Collection Using a Real Time Feedback Tool for Non Verbal Presentation Skills Training	Haider F, Luz S, Campbell N	Proceedings of Just Talking LREC Workshop 2016			Portoroz Slovenia	2016			
38	Data Collection and Synchronisation: Towards A Multiperspective Multimodal Dialogue System with Metacognitive Abilities	Haider F, Luz S, Campbell N	Proceedings of International Workshop on Spoken Dialogue Systems, IWSDS 2016 (Lecture Notes in Electrical Engineering Springer (In Press))			Saariselkä Finland	2016			
39	Presentation quality assessment using acoustic information and hand movements	Haider F, Cerrato L, Luz S, Campbell N	Proceedings of IEEE ICASSP 2016			Shanghai, China	2016			
40	A metacognitive agent for training negotiation skills	Stevens, C., de Weerd, H., Cnossen, F., & Taatgen, N.A.	Proceedings of the 14th international conference on cognitive modeling			University Park, PA, USA	2016	27-32	http://acs.ist.psu.edu/iccm2016/proceedings/stevens2016iccm.pdf	Yes

A2: LIST OF DISSEMINATION ACTIVITIES								
NO.	Type of activities[6]	Main leader	Title	Date/Period	Place	Type of audience[7]	Size of audience	Countries addressed
1	*Talk*	*Koryzis D. (HeP)*	*The Metalogue project: impact and goals (EU Research and Innovation meeting)*	*5 March 2014*	*Athens, Greece*	*Hellenic Parliament*	*25*	Greece
2	*Presentation (on-site)*	*Aretoulaki M. (DC)*	*The METALOGUE EU Project: Call Centre Users (cf. Attachment)*	*15 July 2014*	*Overton, UK*	*INDUSTRY:* *PREMIER BUSINESS AUDIO Call Centre*	*4*	UK
3	*Presentation*	*Klemke, R., Schneider, J., Happe, S., Bockelmann, T., Börner, D., & Specht, M.*	*Die Welt als Spielfeld: Mobile Serious Games mit Augmented Reality*	*17 July 2014*	*Düsseldorf, Germany*	*Nacht der Spiele, Mediadesign Hochschule*		
4	*Briefing*	*Aretoulaki M. (DC)*	*automated Call Centre Agent training tool*	*21 July 2014*	*Email communication*	*INDUSTRY:* *BARCLAYS Bank Contact Delivery & IVR*	*2*	UK
5	*Briefing*	*Aretoulaki M. (DC)*	*Invitation to your Call Centre to*	*23 July 2014*	*Email communication*	*INDUSTRY:*	*1*	UK

[6] A drop down list allows choosing the dissemination activity: publications, conferences, workshops, web, press releases, flyers, articles published in the popular press, videos, media briefings, presentations, exhibitions, thesis, interviews, films, TV clips, posters, Other.

[7] A drop down list allows choosing the type of public: Scientific Community (higher education, Research), Industry, Civil Society, Policy makers, Medias, Other ('multiple choices' is possible).

			participate			*TalkTalk*		
6	*Briefing*	*Aretoulaki M. (DC)*	*Invitation to your Call Centre to participate*	*24 July 2014*	*Email communication (LinkedIn)*	*INDUSTRY:* *HOOVER Candy Contact Centre*	*1*	UK
7	*Briefing*	*Aretoulaki M. (DC)*	*Invitation to your Call Centre to participate*	*24 July 2014*	*Email communication (LinkedIn)*	*INDUSTRY:* *WORLDSTORES Contact Centre*	*1*	UK
8	*Briefing*	*Aretoulaki M. (DC)*	*Invitation to your Call Centre to participate*	*24 July 2014*	*Email communication (LinkedIn)*	*INDUSTRY:* *ROYAL MAIL / PARCELFORCE Contact Centre*	*1*	UK
9	*Briefing*	*Aretoulaki M. (DC)*	*Invitation to your Call Centre to participate*	*28 July 2014*	*Email communication (LinkedIn)*	*INDUSTRY:* *VODAFONE*	*1*	UK
10	*Briefing*	*Aretoulaki M. (DC)*	*Invitation to your Call Centre to participate*	*28 July 2014*	*Email communication (LinkedIn)*	*INDUSTRY:* *CALUNA Contact Centre*	*1*	UK
11	*Briefing*	*Aretoulaki M. (DC)*	*Invitation to your Call Centre to participate*	*8 Aug 2014*	*Email communication (LinkedIn)*	*INDUSTRY:* *LITTLEWOODS Call Centres*	*2*	UK
12	*Presentation*	*Schneider, J.*	*Sensor Based Learning with the Presentation Trainer*	*1 September 2014*	*Heerlen, Netherlands*	*Welten Institute Onderzoekslunch*		
13	*Presentation*	*Schneider, J.*	*Sensor Based Learning Support*	*16 September 2014*	*Graz, Austria*	*Doctoral Consortium in European Conference on Technology Enhanced Learning, EC-TEL 2014*		
14	*Briefing*	*Aretoulaki M. (DC)*	*Automated tools for Call Centre Agent training*	*11 Oct 2014*	*Email communication (LinkedIn)*	*INDUSTRY:* *TELEIMAN Call Centre Operations*	*1*	US
15	*Workshop*	*Börner, D. &*	*Seamless*	*3 November 2014*	*Istanbul, Turkey*	*World Conference on*		

		Tabuenca, B.	*Learning Experiences*			*Mobile and Contextual Learning (mLearn)*		
16	*Presentation*	*Van Rosmalen, P., Schneider, J., & Börner, D.*	*Sensors in Education?*	*7 November 2014*	*Eindhoven, Nederland*	*Conferentie Welten-instituut: Leren, Doceren en Technologie*		
17	*Presentation (online)*	*Aretoulaki M. (DC)*	*METALOGUE Call Centre Trainer*	*2 December 2014*	*Webinar*	*INDUSTRY:* *ADT*	*5*	US
18	*Presentation*	*Schneider, J.*	*Introducing the Presentation Trainer, a tool to develop your non-verbal communication skills for public speaking*	*4 December 2014*	*Berlin, Germany*	*International Conference on Technology-supported Learning & Training (Online Educa Berlin)*		
19	*Presentation*	*D. Koryzis (HeP)*	*Metalogue concept*	*20 December 2014*	*Athens, Greece*	*Hellenic Parliament Foundation Schools Community representatives*	*15*	GR
20	*Presentation*	*Börner D.*	*Tangible Interactive Ambient Display Prototypes to Support Learning Scenarios*	*17 January 2015*	*Stanford, USA*	*9th International Conference on Tangible, Embedded, and Embodied Interaction*	*~250*	International
21	*Briefing*	*Aretoulaki M. (DC)*	*Automated Call Centre Agent training tool*	*18 Feb 2015*	*Email communication*	*INDUSTRY:* *DIRECT LINE Call Centre*	*10*	UK
22	*Industrial Workshop (online)*	*Aretoulaki M. (DC)*	*Call Centre Training & Performance vs IVR Analytics*	*27-30 March 2015*	*Webinars*	*INDUSTRY:* *ADT*	*9*	US
23	*Workshop*	*Schneider J.*	*Practice until you can preach anything: The Presentation*	*16 April 2015*	*Heerlen, Netherlands*	*OPEDUCA Conference*		

			Trainer					
24	*Briefing*	*Aretoulaki M. (DC)*	*METALOGUE Call Centre Trainer*	*12 May 2015*	*Email communication*	*INDUSTRY:* *HOROWITZ BIOMETRICS*	*3*	UK
25	*Industrial Workshop (online)*	*Aretoulaki M. (DC)*	*IVR Analytics on Call Centre Performance & Training*	*21 May 2015*	*Webinar*	*INDUSTRY:* *APPLE Call Centre Operations*	*20*	US, IRELAND
26	*Presentation*	*Schneider J.*	*Studying a Model for immediate automated feedback, using the Presentation Trainer.*	*29 May 2015*	*Heerlen, Netherlands*	*eTeaching/Comenius meeting*		
27	*Presentation+Workshop*	*Börner D., Klemke R., Antonaci A.*	*Seamless and Contextualised Learning*	*07 July 2015*	*Ischia, Italy*	*Joint International Summer School on Technology-Enhanced Learning*		
28	*Workshop*	*Börner D., Thüs H., Schmitz B.*	*Mobile Learning Workshop*	*01 September 2015*	*München, Germany*	*DeLFI conference*		
29	*Presentation*	*Börner D.*	*Interactive Experiences for Learning/Games*	*28 October 2015*	*Düsseldorf, Germany*	*Guest Lecture MD.H*		
30	*Presentation*	*Schneider J.*	*Non-verbal communication for presentations*	*30 October 2015*	*Aachen, Germany*	*entrepreneurship lab*		
31	*Presentation*	*Van Rosmalen, P.*	*Scalable Support Activities for (Open) Online Education*	*4 November 2015*	*Shanghai, China*	*International Conference on the Capacity Building of Open Universities in the Globalization Era*	*200*	China, International
32	*Lecture*	*Van Rosmalen, P.*	*Support Activities for (Open) Online Education*	*8 November 2015*	*Shanghai, China*	*Lecture at East China Normal University*	*25*	China
33	*Presentation*	*Van Rosmalen, P.*	*Designing for Scalable Interactions for (Massive) (Open)*	*26 November 2015*	*Maastricht, The Netherlands*	*Mini-Symposium: Instructional models for MOOCs, 25-27 November 2015*	*15*	International

			Online Courses					
34	*Briefing*	*Aretoulaki M. (DC)*	*The META Avatar for Call Centre meta-cognitive Skills Training*	*26 January 2016*	*Email communication (LinkedIn)*	*INDUSTRY:* *APPLE Contact Center Sales & Service*	*1*	US
35	*Youth Parliament Annual Session*	*D. Koryzis (HeP), D. Spiliotopoulos (UoP)*	*METALOGUE: a tool for youth parliamentarians*	*June 2016*	*Athens*	*Youth Parliament & Public*	*300*	Greece
36	*Briefing*	*Aretoulaki M. (DC)*	*The META Avatar for Call Centre meta-cognitive Skills Training*	*22 June 2016*	*Email communication (LinkedIn)*	*INDUSTRY:* *KARMA GROUP Call Centre*	*1*	Greece
37	*Industrial Workshop (Online)*	*Aretoulaki M. (DC), Stricker A. (CHA)*	*META: An Avatar for Meta-cognitive Skills Training*	*23 June 2016*	*Zoom Webinar*	*INDUSTRY:* *CHOPS*	*1*	US
38	*Industrial Workshop (Online)*	*Aretoulaki M. (DC)*	*An Avatar for Call Centre Skill Training* *(CHOPS Reference)*	*13 July 2016*	*GoToMeeting? Webinar*	*INDUSTRY:* *NOVEDGE*	*2*	US
39	*Presentation*	*Alexandersson, J. (DFKI)*	*The METALOGUE System*	*13 July 2016*	*Saarbruecken, Germany*	*INDUSTRY:* *ASC*		Germany
40	*Industrial Workshop (Online)*	*Aretoulaki M. (DC)*	*The METALOGUE Avatar for Meta-cognitive Skills Training*	*29 July 2016*	*Skype Webinar*	*INDUSTRY:* *CONVERSATIONAL BYTES*	*2*	UK / UAE / US
41	*Industrial Workshop (Online)*	*Aretoulaki M. (DC)*	*Commercial Exploitation of the METALOGUE Avatar for Call Centre Skill Training*	*4 Aug 2016*	*GoToMeeting? Webinar*	*INDUSTRY:* *CHOPS*	*1*	US
42	*Briefing*	*Aretoulaki M. (DC)*	*Automating Call Centre Agent training:*	*11 Aug 2016*	*Email communication*	*INDUSTRY:* *CUSTOMER*	*4*	UK

			Opportunity for AI innovation talk or exhibition space at Customer Contact Expo			*CONTACT EXPO Trade Fair*		
43	*Briefing*	*Aretoulaki M. (DC)*	*Automating Call Centre Agent training: Opportunity for AI innovation talk or demo at Customer Experience Excellence or CCA Convention 2016*	*11 Aug 2016*	*Email communication* *(Follow-up on 14 & 24 Oct 2016)*	*INDUSTRY:* *CUSTOMER EXPERIENCE EXCELLENCE / CCA CONVENTION Trade Fairs*	*2*	UK
44	*Briefing*	*Aretoulaki M. (DC)* *Stricker, A. (CHA)*	*An Avatar fuer die teil-automatisierteCall-Center Agent-Ausbildung: KI-Innovation Webinar*	*17 Aug 2016*	*Email communication*	*INDUSTRY:* *CALLCENTRE VERBAND (German Call Centre Association)*	*1*	Germany
45	*Briefing*	*Aretoulaki M. (DC)*	*Automating Call Centre Agent training: Opportunity for AI innovation webinar*	*17 Aug 2016*	*Email communication*	*INDUSTRY:* *CALL CENTRE MANAGEMENT ASSOCIATION (CCMA)*		UK
46	*Briefing*	*Aretoulaki M. (DC)*	*Automating Call Centre Agent training: Opportunity for AI innovation in Call Centres webinar*	*17 Aug 2016*	*Email communication & Tweets* *(Follow-up 14 & 24 Oct 2016)*	*INDUSTRY:* *CALL CENTRE HELPER Webportal*	*2*	UK
47	*Briefing*	*Aretoulaki M. (DC)*	*Automating Call Centre Agent training: Opportunity for AI innovation in Call Centres webinar*	*17 Aug 2016*	*Email communication*	*INDUSTRY:* *CONTACT CENTER WORLD Webportal*		US / worldwide

48	*Briefing*	*Aretoulaki M. (DC)*	*A Call Centre Agent Training Avatar*	*29 Aug 2016*	*Email communication (LinkedIn)*	*INDUSTRY:* *CONTACTS PLUS*	*1*	UAE
49	*Briefing*	*Aretoulaki M. (DC)*	*Meet META, the Meta-cognitive skills Training Avatar* *(Reaction to Blog post)*	*30 Aug 2016*	*Email communication (LinkedIn)*	*INDUSTRY:* *HOROWITZ BIOMETRICS*	*2*	UK
50	*Briefing*	*Stricker, A. (CHA)*	*An Avatar fuer die teil-automatisierteCall-Center Agent-Ausbildung: KI-Innovation Webinar*	*2 Sep 2016*	*Phone call*	*INDUSTRY:* *CALLCENTRE VERBAND (German Call Centre Association)*	*1*	Germany
51	*Briefing*	*Aretoulaki M. (DC)*	*An Avatar fuer die teil-automatisierteCall-Center Agent-Ausbildung: KI-Innovation Webinar*	*8 Sep 2016*	*Email communication*	*INDUSTRY:* *CALLCENTRE VERBAND (German Call Centre Association)*	*2*	Germany
52	*Briefing*	*Aretoulaki M. (DC)*	*AI innovation in Call Centres*	*8 Sep 2016*	*Email communication*	*INDUSTRY:* *KCOM*	*1*	UK
53	*Briefing*	*Aretoulaki M. (DC)*	*AI innovation in Call Centres*	*8 Sep 2016*	*Email communication*	*INDUSTRY:* *SKYSCANNER*	*1*	UK
54	*Briefing*	*Aretoulaki M. (DC)*	*AI innovation in Call Centres*	*8 Sep 2016*	*Email communication*	*INDUSTRY:* *SOFTWARE AG*	*1*	UK
55	*Briefing*	*Aretoulaki M. (DC)*	*AI innovation in Call Centres*	*8 Sep 2016*	*Email communication*	*INDUSTRY:* *OMILIA*	*1*	Greece
56	*Briefing*	*Aretoulaki M. (DC)*	*AI innovation in Call Centres*	*8 Sep 2016*	*Email communication*	*INDUSTRY:* *VOICEWEB*	*1*	Greece
57	*Briefing*	*Aretoulaki M. (DC)*	*AI innovation in Call Centres*	*8 Sep 2016*	*Email communication*	*INDUSTRY:* *NOKIA SIEMENS*	*1*	Greece

58	*Briefing*	*Aretoulaki M. (DC)*	*AI innovation in Call Centres* *(NOKIA SIEMENS GR Reference)*	*16 Sep 2016*	*Email communication*	*INDUSTRY:* *COSMOTE*	*1*	Greece
59	*Presentation*	*Alexandersson, J. (DFKI)*	*The METALOGUE System*	*19 Sep 2016*	*Saarbruecken, Germany*	*INDUSTRY:* *COSMOS DIREKT*		Germany
60	*Presentation*	*Van Rosmalen, P. (OUNL)*	*The Presentation Trainer: Briefing and Discussion*	*19 September 2016*	*Skype meeting*	*INDUSTRY:* *TRAINTOOL Ltd*	*1*	NL
61	*Briefing*	*Aretoulaki M. (DC)*	*AI innovation in Call Centres* *(OMILIA GR Reference)*	*23 Sep 2016*	*Email communications* *(Follow-up on 4 & 14 Oct 2016)*	*INDUSTRY:* *- FORTHNET GR* *- VODAFONE GR* *- EUROBANK GR* *- PIRAEUS BANK GR* *- YOIGO ES (Spanish mobile operator)* *- ALFA BANK Ukraine* *- Kcell (Telecom operator in Kazakhstan)* *- RenCredit (Russia)*	*10*	Greece Spain Ukraine Kazakhstan Russia
62	*Presentation*	*Alexandersson, J. (DFKI)*	*The METALOGUE System*	*27 Sep 2016*	*Saarbruecken, Germany*	*INDUSTRY:* *T-SYSTEMS / DEUTSCHE TELEKOM*		Germany
63	*Presentation*	*Van Rosmalen, P. & Schneider, J.*	*The Presentation Trainer*	*29 September 2016*	*Heerlen*	*School organisation:* *LVO Parkstad*	*1*	NL

		(OUNL)						
64	*Briefing*	*Aretoulaki M. (DC)*	*The METALOGUE Project & dissemination to Call Centres*	*29 September 2016*	*Phone call*	*INDUSTRY:* *VOXGEN*	*2*	UK
65	*Briefing*	*Aretoulaki M. (DC)*	*META: a Speech Avatar with negotiation skills exhibit @Alexa Developers' Conference*	*1 / 7 / 10 Oct 2016*	*Email communications* *(Follow-up 14 Oct 2016)*	*INDUSTRY:* *AMAZON*	*5*	US, UK
66	*Briefing*	*Aretoulaki M. (DC)*	*METALOGUE, an AI and speech recognition research project showcase*	*4 Oct 2016*	*Email communications*	*INDUSTRY:* *TECHDAY Trade Fair*	*1*	UK
67	*Presentation*	*Schneider J. (OUNL)*	*Practice and improve using the Presentation Trainer*	*19 October 2016*	*Wageningen, Netherlands*	*Competence Conference*		NL
68	*Presentation*	*Schneider J. (OUNL)*	*Non-verbal communication for presentations*	*24 October 2016*	*Aachen, Germany*	*entrepreneurship lab*		Germany
69	*Industrial Workshop*	*Stricker, A. (CHA)*	*The METALOGUE Avatar Trainer for Learning Technologies Companies*	*Oct 2016*	*Koeln, Germany*	*INDUSTRY:* *- AIX CONCEPT* *- BOSCH REXROTH* *- CORNELSEN VERLAG* *- PROSOFT* *- E-TEACHING* *- RANDSTAD* *- 2 additional companies (confidential)*	*15*	Germany

70	*Presentation*	*Stricker, A. (CHA)*	*The METALOGUE Training Avatar*	*Oct 2016*	*Koeln, Germany*	*INDUSTRY:* *Education Association of the German Education Industry:* *- BDVT* *- Didacta*	*6*	Germany
71	*Industrial Workshop*	*Stricker, A. (CHA)*	*The METALOGUE System*	*Oct 2016*	*Koeln, Germany*	*INDUSTRY:* *German Telecom Operator (confidential)*	*4*	Germany
72	*Presentation*	*Stricker, A. (CHA)*	*The METALOGUE Training System*	*Oct 2016*	*Koeln, Germany*	*GOVERNMENT:* *German Ministry for Education and Research*	*3*	Germany