**ONE PAGE PROPOSAL**

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| **CALL’S INFORMATION** |
| **Specific Programme** | ICT-2015-Information and Communications Technologies |
| **Call Identifier** | H2020-ICT-2015-1 | **Subcall Identifier** | H2020-ICT-2015 |
| **Topic *(as named in the Work Programme)*** | Technologies for better human learning and teaching (ICT-20-2015.a) |
| **Deadline** | April, 2015 |

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| **PROPOSAL INFORMATION** |
| **Proposal acronym** | 2MoSEAT |
| **Proposal full name** | A Dual-Modal System to embed Emotion Awareness into eTraining |
| **Type of action**  |   |
| **Approximate total Project Cost** |  |
| **Aproximate UOC Cost** |  |

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| **KEYWORDS** |
| emotion awareness, e-training, collaborative work and learning, adaptive learning, social network, emotion detection, mood, affective state, self-reporting, affective feedback, emotion visualization, affective computing, virtual learning environment, VLE, virtualized collaborative session, VCS, learning analytics  |

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| **LIST OF PARTICIPANTS (CONFIRMED AND SOUGHT)** |
| **List of participants confirmed or contacted** (proposal coordinator first) | **Country** |
| **Universitat Oberta de Catalunya (UOC) (confirmed)** | **Spain** |
| **University of the Aegean (UoA) (confirmed)** | **Greece** |
| **Universitat Politècnica de Catalunya (UPC) (confirmed)** | **Spain** |
| **Istituto Nazionale di Documentazione, Innovazione e Ricerca Educativa (INDIRE), (confirmed)** | **Italy**  |
| **MO.M.A. S.R.L. - MODELLI MATEMATICI ED APPLICAZIONI (confirmed)** | **Italy**  |
| **Apoplous Learning LTD (ALL) (confirmed)** | **Cyprus** |
| **Computer Science Laboratory for Mechanics and Engineering Sciences (LIMSI) (confirmed)** | **France** |
| Open University (Denise Whitelock) (OU) (sought) | UK |
| University of Twente (UT) (sought)  | Netherlands |
| Swiss Center for Affective Sciences (SCAS) (sought) | Switzerland |
| Content Master Group (CMG) (sought) | UK  |
| Blackboard (Europe Headquarters) (BB) (sought) | Netherlands |
| TU München: The Entrepreneurial University (TUM) (positive) | Germany |
| ELLAK (non-profit organization) (sought) | Greece |
| **Others Partners: Profile Sought** |
| **Required Skills and Expertise** |
| Exploitation activities |
| **Description of work to be carried out by the partner(s) sought** |
| - Propose the exploitation plan (including explotable Knowledge, Results/Products; target Market; overview of the Competitors and a related comparative Analysis)- Propose business scenarios (including adopted Methodology and implementationn of Business Scenarios) |
| **Type of partner(s) sought** |
| Industrials, Academics, Research Institutes |

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| **PROPOSAL SUMMARY (max 10 lines)** |
| Despite the vital role that emotions play in interactive virtual environments, research still lacks of studies to address the presence of emotions, especially in distance training. Our main objective is to investigate the importance of emotion awareness in highly interactive and responsive Web-based environments in order to create a new conceptual and a computational model to embed emotion awareness “ecologically” into these environments, without introducing obtrusiveness or invasiveness. Our intergrated solution consists of 5 basic components: (a) usable and expressive self-report interface for the participants to explicitly report their affective states; (b) sentiment-analysis mechanism to implicitly detect students’ emotion through text input; (c) effective visualisations of the participants’emotions; (d) affective feedback mechanism in response to the the students’ emotion recognition; and (e) learning analytics system that uses the information extracted from analyzing students’ emotions to identify and recommend improvements in the learning content and activities. The results of this multidisciplinary proposal, addressing pedagogical, technological and business issues, will be decisive for enhancing the overall distance training experience and for finding new opportunities for cost-effective ways to deliver training programs. |

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| **PROPOSAL DESCRIPTION** |
| **PLEASE DO NOT EXCEED 1 PAGE****Subject/Background**In order to build real personalised and adaptive systems, we must consider not only user preferences, but also user emotional/affective state. Emotions strongly influence human’s behaviour in social situations and must be seriously considered when forming collaborations. Just placing users together, it does not mean that they will indeed collaborate.The embodiment of emotional awareness features into training environments offer a more authentic and challenging learning experience, either individual or social. In addition, Social Networks (SN) play a major role in collaborative work and learning by locating people at the very centre of networks and exploiting the value of people's connections and relations. This perspective is especially relevant in the emergent educational paradigms, which consider learners as central actors in their learning process. In this context, Learning Analytics provide a clear way of analyzing the network structure and discovering the collaborative knowledge hidden in large volumes of well structured data.Finally, the constant and updated presentation of this knowledge by recent developments in software for visualization techniques can help show the results in a way that is easier to interpret and provide a clear picture of what is happening in the online classroom, which positively impacts on participant’s motivation, emotional state and problem-solving abilities, and as a result enhance online teams.Considering all the above, research still lacks studies to address the presence of emotions especially in collaborative work, learning and social activities within virtual environments and social networks. Furthermore,we are still far from adequate empirically proven strategies to respond affectively to individual or group detected emotions. The current solution will investigate the importance of emotion awareness in e-training environments. To this end, a new conceptual, and a computational model will be developed to embed emotion awareness both into e-learning environments and into decision support systems. The integrated solution will be validated in real training settings.**Proposal Outline & Phases of Work**Emotion awareness has become a “hot” topic in the research agenda because of its potential towards an authentic learning experience. The main objective of this project is to investigate the impact of integrating emotion awareness into e-training environments, as the latter is defined by the collection of the respondents’ affective state and the effective emotional feedback. This objective is further analysed into six research questions investigating: (i) the affective states of interest in e-learning (ii) interesting patterns of sequences that these affective states may follow, (iii) effective ways to integrate emotion recognition “ecologically” into learning environments for the collection of the respondents’ affective state, (iv) appropriate affective feedback that enhance both learners’ cognitive performance and emotion regulation, (v) effective and meaningful visualizations of individual and group affective states, and (vi) efective use of affective information to improve learning resources and activities.**Impact, Expected Results, Lead Users and Exploitation/Dissemination Plan**Web-based collaborative work and social environments that show respect to users’ emotions and feelings are expected to be more authentic than one that completely ignores the way they feel. Emotion awareness contains strong initiatives towards a true adaptation to user’s needs. The integration of emotion awareness mechanisms into e-training systems through Web collaboration and social networks provides the ability to explore affective factors that play a significant role in task perfomance and learning process and opens up a new horizon towards affective training that has been left mostly unexlpored.The applied developments of this project will provide companies with advanced technological tools that support the quality of training and the production-through-training process at large scale. The innovative approach of combining collaborative work methods and social networks enhanced by latest data analysis will make outstanding contributions to the European research excellence and to the ultimate success of companies’ investments on the training they deliver to employees. The project outcomes, in terms of new opportunities for e-training, will provide online trainees and trainers with new tools and services to achieve a more effective collaborative learning.In addition, the expected result of enhancing the effectiveness of the online training process will increase the competiveness of those companies adopting the approach. It is expected that corporate organizations will have cost-effective ways to deliver training whilst maximising the impact of the training programs. Moreover, European companies and institutions adopting the project results will increase international competiveness in Europe and beyond by establishing exploitation alliances for the commercialization of the project results. Finally, commercial sector dissemination will lend great prestige to the project results among the Technology business sector. Dissemination activities through the existing commercial networks of industrial collaborators and clients of the industrial partners of the consortium, with strong international presence and recognition, will reinforce the perception of 2MoSEAT as a cutting-edge project, whose results may be adopted by foremost sector companies.**Organizations and roles**The proposed solution employs experts from different research domains (Pedagogy, Computer Science, Artificial Intelligence, Sociology and Bussiness). In the table below we describe partners and roles they can untertake.

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| **Project Work Packages** | **Partners** |
| 1. Requirements and Integration
 | All partners |
| 1. Emotion Model
 | UoA, LIMSI, UOC, INDIRE (SCAS) |
| 1. Multimodal Emotion Detections
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| * 1. Self-report
 | UoA, UOC |
| * 1. Sentiment Analysis
 | UOC, UPC |
| * 1. Detection through physiological signals
 | LIMSI (SCAS) |
| * 1. Detection through behavioural signals
 | MOMA (TUM) |
| 1. Emotion Visualisations
 | UoA, INDIRE, UOC |
| 1. Affective Feedback
 | LIMSI, INDIRE (TUM, TEU) |
| 1. Learning Analytics
 | UPC, UOC (CMG) |
| 1. Experimentation and Validation
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| * 1. Moodle
 | INDIRE, UoA (OU) |
| * 1. Blackboard
 | INDIRE, UOC (BB) |
| * 1. 2MoSEAT system
 | MOMA, ALL (CMG) |
| 1. Dissemination and Exploitation
 | MOMA, ALL, UOC (CMG) |
| 1. Administrative Management
 | UOC |
| 1. Scientific and Technical Management
 | UOC |

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