Tracking and Influencing Trainee Emotions in a Crisis-Planning Scenario

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Position Paper

The PANDORA project is an EU-funded project under FP7 considering the issues of training strategic managers for disaster and crisis situations. A unique aspect of the project is a consideration of the emotional affect on the trainees of both the crisis scenario and the multimedia inputs from which they have to garner the information on which to base strategic decisions. The project is in the early stages of defining the user requirements, functionality and architecture at this point, but has already identified an intention to capture trainee behaviours and emotions using: sensor technologies, inference from decision-making behaviours, and direct trainer inputs; and to use environmental effects and multimedia content to affect those trainee behaviours and emotions to determine the performance of individual trainees under pressure.

EmotionML offers an obvious tool to support the activities of the project, but there are a number of issues with the current specification that require resolution to make this a useful and workable tool. Perhaps chief among these issues is the nature of a canonical and accepted set of emotional dimensions supported by the specification, since the current specification supports a number of contrasting, discrete and, in some instances, antithetical dimensions proposed by different researchers. There are also issues related to the proposed scaling model, since a probabilistic representation based on a scale from 0 to 1 may satisfy a mathematical progression but there is some justifiable concern as to whether emotional progression can reasonably be translated into a linear scale of this type. Perhaps, in the same way that we can argue that human hearing should be logarithmically distributed across the range of values within range to reflect the known variability of the human ear, there should be some potential for dynamic representation of emotional values within the scale.

The project intends to operate to a standard cybernetic feedback loop model, with the crisis scenario represented as a stateful event network with each event being individually handled relative to the emotional state of the trainees. Some inputs will be possible to influence the event network with a general affect on all participants, but individual affect will only be achievable at an event level. In order to achieve this, the system is required to capture the emotional and behavioural state of each trainee, at an appropriate level of dimensionality and within a defined scale, at the event threshold. This information has to be passed to an internal mash-up engine, which can construct multimedia content representations in a multi-channel, polyphonic, time-constrained model driven by a trajectory definition to move from an existing trainee state towards a desired state. The calculation of the desired state may be pre-defined within the training scenario, dynamically generated by the system, or as a result of direct trainer input. Is EmotionML the answer?? { http://pandora.eupm.net/public/pandora.php }