AN ONTOLOGICAL APPROACH FOR EMOTION ANALYSIS IN SOFTWARE TEAM DISCUSSIONS

by

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Abstract

This thesis presents an ontological approach to emotion analysis, for software development teams. Software development teams, especially for open-source projects, are usually geographically dispersed. Possibility of arousal conflicts becomes a norm; not an exception. In the absence of human contact, it becomes quite challenging to virtually facilitate.

Emotional state of team members affects the performance and outcomes of the team processes. Therefore, emotion analysis becomes an important area for investigation. In order to study emotion analysis, it is intuitive to first understand what emotions are. Emotions are usually described as one's feelings towards an entity. However, there is no universally accepted definition available for emotions.

Several scholars have discussed emotions from different perspectives. This has led to introduction of various theories and models for describing emotions. This study presents an ontology of emotions, built on one such model, for performing emotion analysis. An analyzer is developed using this ontology, which performed analysis on emails taken from mailing lists of Apache Software Foundation projects. The analyzer is able to recognize emotions with an accuracy of 61.3%.

The results indicate that software developers do express emotions in their discussions. These emotions can be identified with the help of an application, similar to the analyzer. Thus, the emotion analysis can be used to study the emotional state of teams, and hence, can act as an aid in team facilitation.

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