Facial expression analysis using motion capture and eye tracking

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Humans are well known to use non-verbal information as well as verbal information in communication.   Non-verbal information is expected to play an important role relatively in complex communication including agreement and apology.   We propose an analysis method for vague facial expression using motion capture and eye tracking simultaneously.   Eye directions and facial movements of a subject while two kinds of face-to face communication, 'free' conversation and 'compulsory' conversation, are recorded and analyzed by Self-organizing map (SOM).   The results of the analysis show that four kinds of expression of affirmation, negation, interrogation, and thought, have their own features in the facial motions and the eye directions.