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-AFFECTIVE MULTIMODAL HUMAN-COMPUTER INTERACTION-

Current HCI design's insensitivity is admissible for well-codified duties but this type of categorial computing is irrelevant in terms of design perspective. It is a significant obstacle to having adaptable machines capable of adopting themselves to user's level of caution, desires, state of mind, and purpose. There are three essential techniques which can be utilized to infer human-affective states and these techniques can later be used in implementing different types of affect-analyzers to adapt machines according to human behaviour. These three techniques are body-affect, facial-affect, and vocal-affect analysis.

Automatic evaluation of dullness, recklessness, tension and similar attitudinal properties would be considerably valuable in which firm care is needed for important but boring tasks. In order to assess these behavioral properties there is a need for dependable analysis techniques. First technique employed is facial-affect analysis. When facial expressions and body gestures are reflected together, it seems to be the most prominent way for human to interpret behavioral cues. Second technique exploited is body-affect analysis. According to researches conducted so far, body-affect analysis has shown to be more useful when used along with facial-affect analysis because of this reason these two techniques are bundled and used together in experiments. Third technique utilized is vocal-affect analysis considered somewhat more unreliable when used solely because current vocal-affect analyzers are not capable of performing context-sensitive analysis and they do not analyze the obtained vocal expression information on different time scales. Researches have shown that combining these three modalities can provide results which can achieve an accuracy of 75% to 85%.

In summary, latest proposals are towards using three techniques as a combination can provide better accuracy in determining human behaviours in a context independent way, but still existing methods aimed at the automation of human affect analysis are context-insensitive. Latest researches are aimed to construct unified database which can be used to hold previous research data along with the newly produced data so that research communities can work together to construct more reliable datasets which increase the affect-analyzer accuracies for better inference.