

# Challenges in Providing Automatic Affective Feedback in Instant Messaging Applications

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## Abstract

Instant messaging is one of the major channels of computer mediated communication. However, humans are known to be very limited in understanding others' emotions via text-based communication. Aiming on introducing emotion sensing technologies to instant messaging, we developed EmotionPush, a system that automatically detects the emotions of the messages end-users received on Facebook Messenger and provides colored cues on their smartphones accordingly. We conducted a deployment study with 18 participants during a time span of two weeks. In this paper, we revealed six challenges, along with examples, that we observed in our study based on both user's feedback and chat logs, including (i) the continuum of emotions, (ii) emoji, emoticons and stickers, (iii) multi-user conversations, (iv) familiarity between users, (v) paragraph-like long responses, and (vi) multiple languages and code switching. We believe this discussion will benefit the future exploration of affective computing for instant messaging, and also shed light on research of conversational emotion sensing.