

# 20. Monitoring group emotions

**W**e have developed the crowd emotion monitor SWEET (short for Sense & Tweet) that evaluates the emotion of a group of people based on photos. SWEET automatically analyzes the emotional expressions on people's faces as they appear on images. The images can come from smartphone cameras or from cameras installed on fixed locations. Location tracking is done by using WiFi-sniffers to track the participants. Via a smartphone app the platform can share the resulted group emotion with stakeholders. Our first objective is to enhance people's experiences during conferences. As a visitor of a conference SWEET can allow you to see the emotional states in various rooms. You can use this information to find out where the most interesting presentation is going on.



### ICT science question

How can we reliably track the location of people's smart phones in a crowd based on WiFi-sniffers? How can we automatically recognize emotional expressions on people's faces from images that come from smartphones or fixed cameras? How should we store and compute the data so to monitor group emotions in real time? Our emotion monitor combines state-of-the-art sensing, event processing, reasoning and data communication technologies.

### Application

Crowd emotion monitor SWEET can be used at events like conferences to enhance people's experiences or for entertainment, like at dance parties. More generally, it can be used to guide people to locations where they can gain the best experience. There are two ways to use SWEET in practice. First, the SWEET-smartphone app allows you to make photos of yourself and your fellow participants. The app analyzes facial expressions and



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records the location and the surrounding sound. Subjective feedback is retrieved using an event-driven questionnaire tool about how the participants are feeling. The second way is to sign up to the special SWEET Event Twitter Channel to receive messages related to the event. Tweets are broadcasted to inform people about special activities or wherever something nice or interesting is going on.

### Alternative Application

Alternatively, the crowd emotion monitor can also be used to increase safety at mass events. By monitoring the emotion of a crowd and seeing whether the group emotion gets heated up, possible incidents might be detected in an early stage. However, this alternative application requires the development of slightly different algorithms. Still another application is the use of SWEET as a tool to gain insight into group processes, which could be useful in various scientific research.

### Nice to know

The first version of SWEET has been demonstrated by SWELL partner Noldus on Dutch television (Editie NL, RTL4, 16 december 2013)



Local sensing and tweeting as an example of the internet of things.



Crowd Emotion Monitor to assess behaviour and emotion of people.



Use your Smartphone as platform for emotion detection.



Sense emotions locally, tweet worldwide.