EmotionML

The challenge of dealing with human factors

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Emotion Markup Language

- Why do we need a computer-readable representation of emotions?
  - People express emotions all the time when talking to each others
    - emotions are the “social glue” in human experience
  - People's experience of technology is strongly influenced by emotional reactions (especially for non-experts)
    - e.g., a “canned” friendly voice in IVR system can make people **more** upset if they have a problem
  - Application developers want to make user experience more engaging
    - personalised, interactive web sites

Emotion-related technology on the market today

- Annotate

www.nicovideo.jp

- Sense

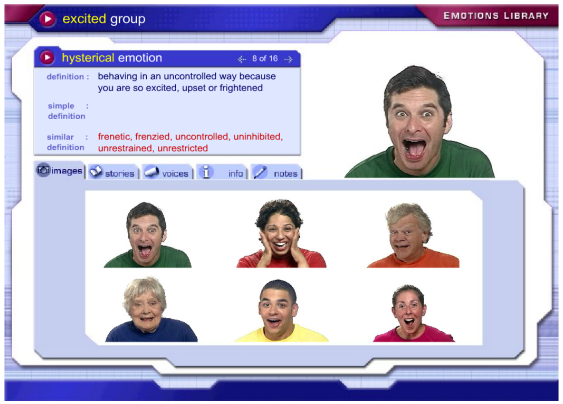
www.nviso.ch

- Generate

Emotional TTS voices

"*Amazing!*"

www.loquendo.com

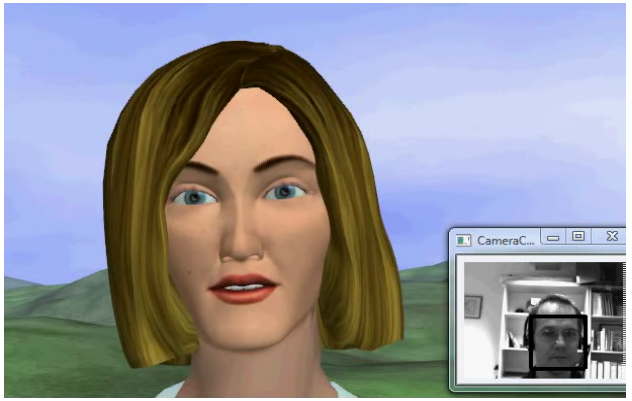


www.jkp.com/mindreading

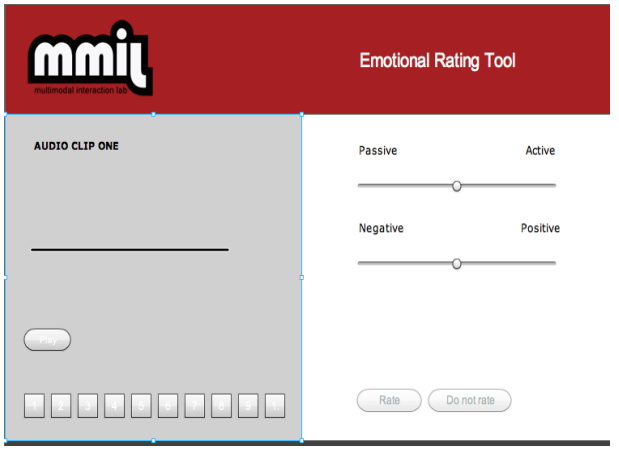
www.affectiva.com

www.livingactor.com

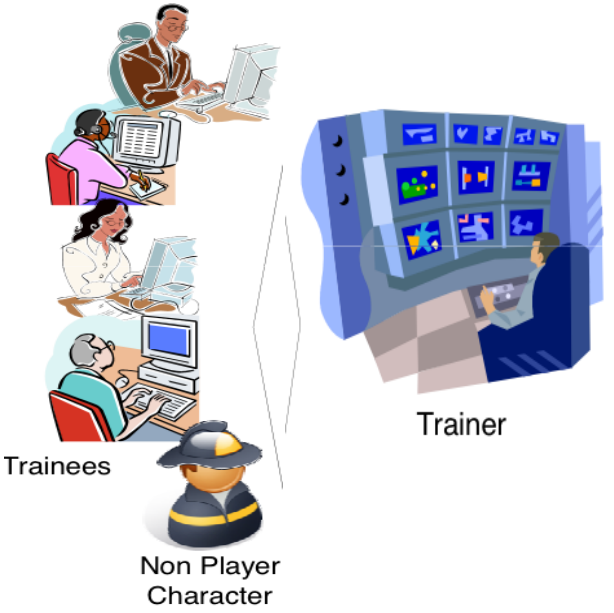
Emotion-related work in research labs



SEMAINE: non-verbal capabilities for virtual agents

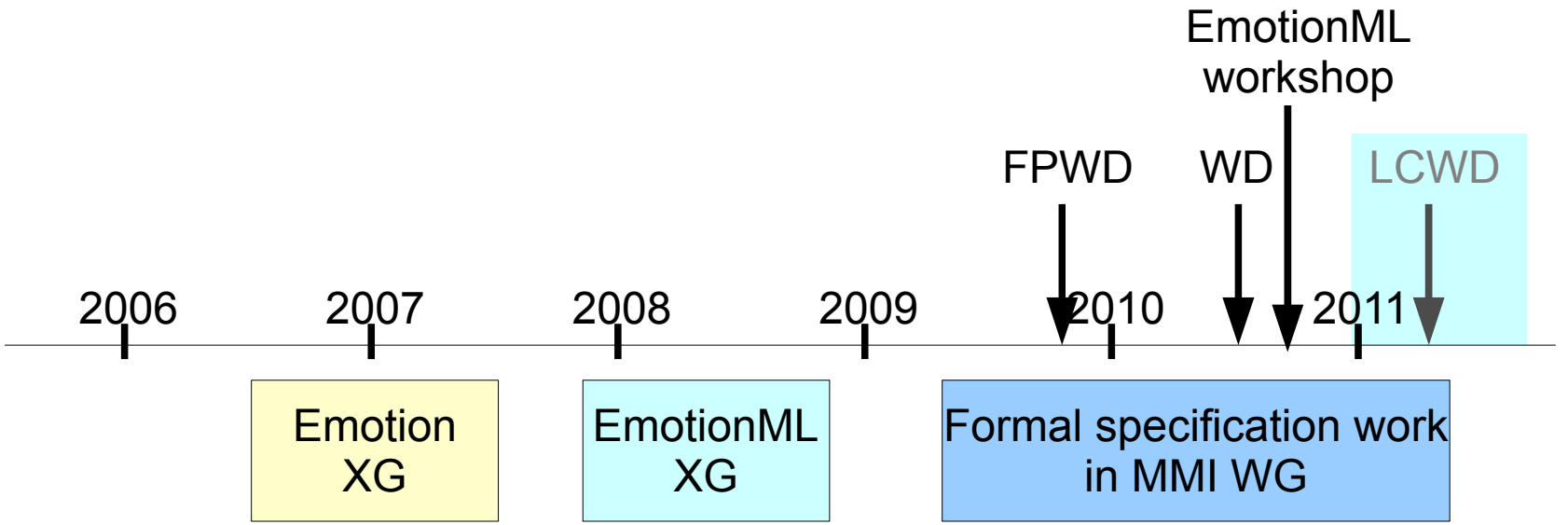


DIT: Crowdsourcing techniques for annotating emotional speech



PANDORA: Training for crisis management

EmotionML: Specification status



EmotionML: Design principles

- EmotionML as a “plug-in” language
  - usable in many contexts
  - EMMA, SSML, SMIL, …
- Scientific validity
  - use emotion descriptions from scientific literature

→ Recent EmotionML workshop confirms that spec is well under way for both principles

EmotionML: Three use cases

- (1) manual annotation of data
- (2) automatic recognition of emotion-related states from user behavior
- (3) generation of emotion-related system behavior

EmotionML in web applications?

- (1) manual annotation of data

  crowdsourcing video annotation

- (2) automatic recognition of emotion-related states from user behavior

  capturing human non-verbal behaviour

  from face, voice, physiological sensors

- (3) generation of emotion-related system behavior

  speech synthesis virtual characters