EmotionML
The challenge of dealing with human factors

Marc Schröder, DFKI GmbH

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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

2006

Emotion XG

2007

2008

EmotionML XG

2009

Formal specification work in MMI WG

2010

FPWD

EmotionML workshop

WD

2011

LCWD

EmotionML – human factors
Marc Schröder
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