Towards Peripheral Feedback-based Realtime Social Behaviour Coaching

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Motivation

• Nonverbal behaviour is difficult to control
  • Often triggered on an unconscious level
• Inappropriate nonverbal behaviour can have a negative influence on the outcome of social interactions
  • e.g. job interviews, public speaking
• Training is usually required to gain control and master one’s nonverbal behaviour
  • Time consuming, costly

source: youtube.com/v/KVlPO8yg3A
• Realtime multimodal analysis and classification of social signals

• Social Signals
  – Expressivity features (Energy, Openness, Fluidity)
  – Facial expressions
  – Speech quality (Speech rate, Loudness, Pitch)
  – Excitement

• Sensors
  – Remote (MS Kinect, webcams)
  – Body-worn (IMUs, microphone)
• **Aim**
  – Increase self-awareness of one’s behaviour without interfering with the main activity

• **Hardware**
  – Optical see-through HMD (e.g. Google Glass)

• **Design guidelines**
  – Alignment: *upper corner of FOV*
  – Presentation: *pictographic*
  – Timing: *persistent visualization*
  – Information retrieval: *glanceable*
Hardware:
- Vuzix STAR 1200
- Tascam/SHURE close-talk microphone
- Microsoft Kinect

Behaviour Analysis
- Social Signal Processing (SSI) framework
- Social Signals:
  - Speech rate
  - Body Energy
  - Excitement
sensors → Behaviour Analysis → Feedback Generation → HMD
Future Work

- System evaluation (in press)
- Design study (in press)
- Switch to smaller, lighter HMD
- Explore other social signals
- Explore other sensors
  - System should be wearable
- Feedback timing
- User customization
Thank you

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