REAL TIME FACIAL EXPRESSION EDITING IN VIDEO STREAMS

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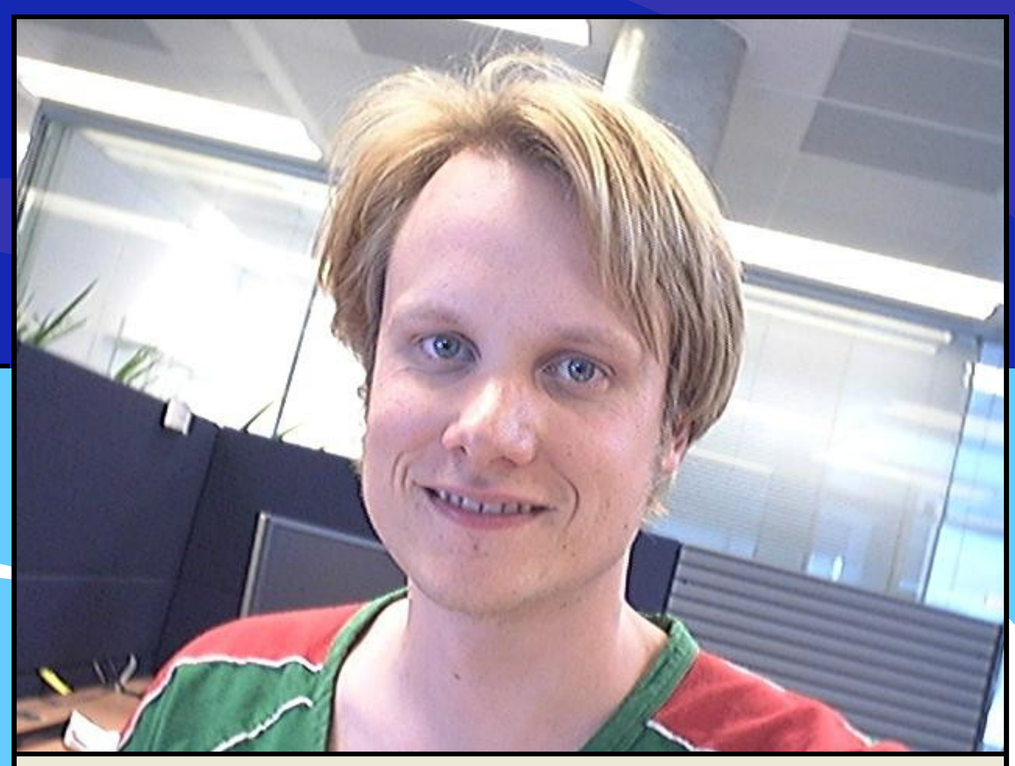
The Scenario

We have a Videoconferencing Scenario

- Monocular or
- Stereo
- One "Talking Head" that we want to manipulate

The Goal

Take an input video and manipulate the expression in each of the frames



Why is this Interesting?

A challenging test-environment for:

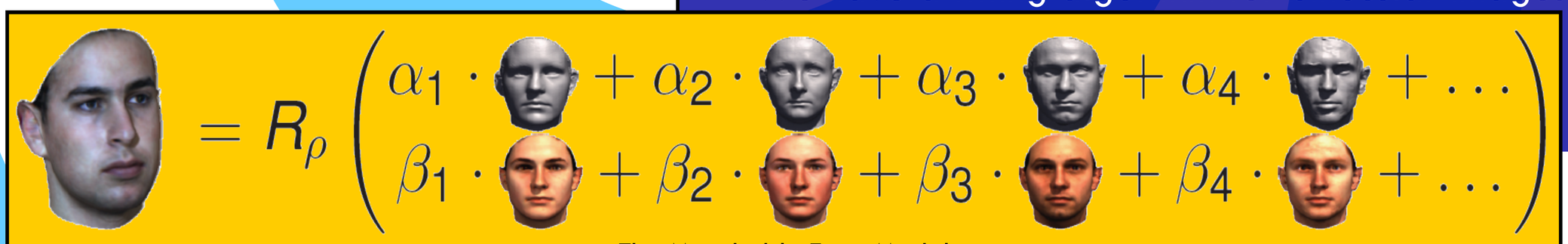
- Face and expression modelling
- Tracking and
- Rendering

Some commercial applications possible:

- Puppeteering in a video conferencing application
- Synchronization of Films with different languages
- Playful video conferencing stuff

Where are we?

- We have a face model for neutral expressions
- We have an offline fitting algorithm for monocular images
- We have a fitting algorithm for binocular images

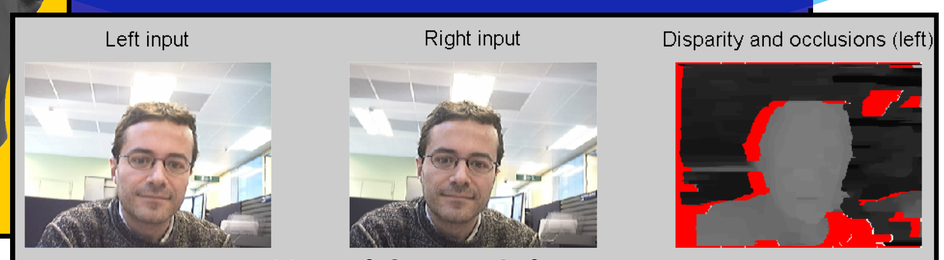


The Morphable Face Model

What are we looking into at the moment?

Scanning and Registration

- Building a better model
  - Data Acquisition
  - Registration of Data
- Improving Tracking
  - Use of stereo information
  - Use of temporal coherence



Use of Stereo Information

What do we need?

- An expression model, separating identity and expression
- A way to manipulate the model in a sensible way
- A real time fitting algorithm exploiting temporal coherence
- An idea for how to cope with