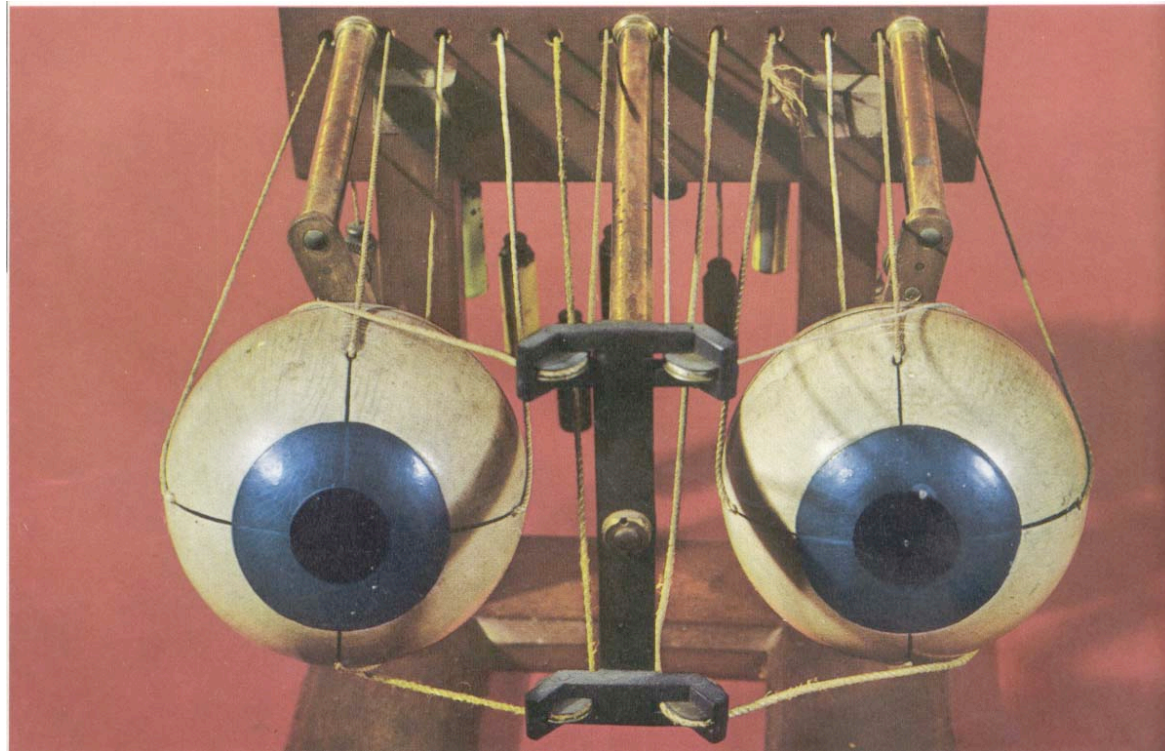


Gaze Interaction beyond clicking

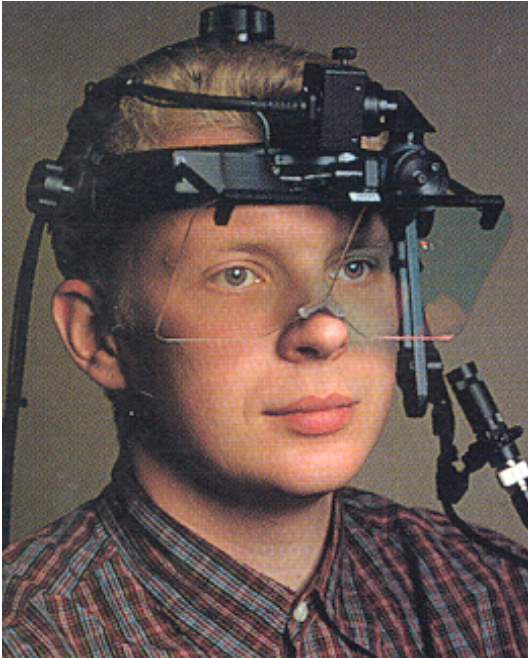


John Paulin Hansen, IT University of Copenhagen

Fixed systems



Mobile systems



Canon EOS 30



Market predictions

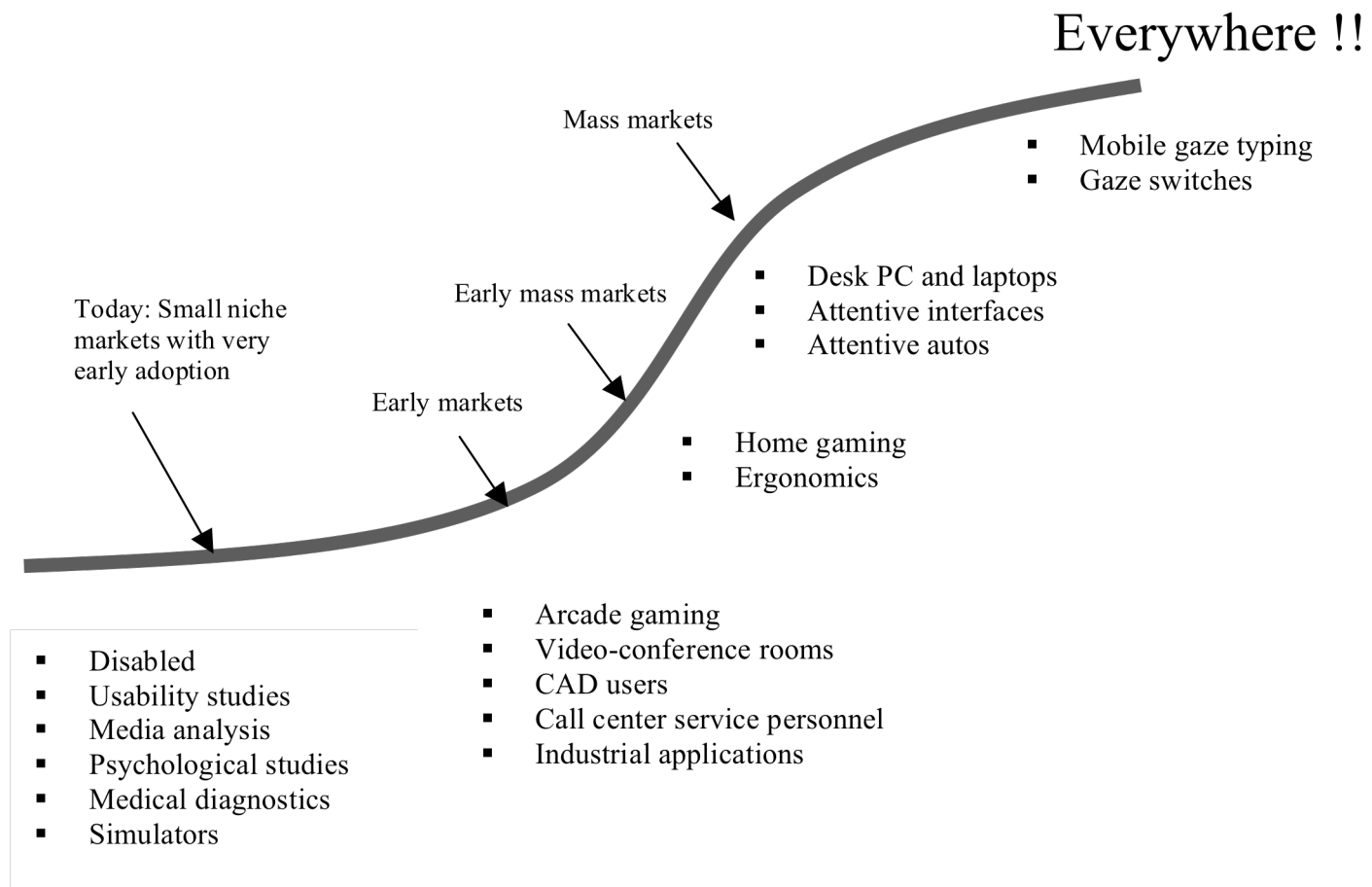


Figure 1: A possible development of the gaze tracking market

Gaze switches



5a



5b

STEPHEN WILD



5c



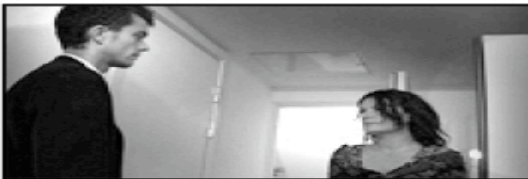
5d

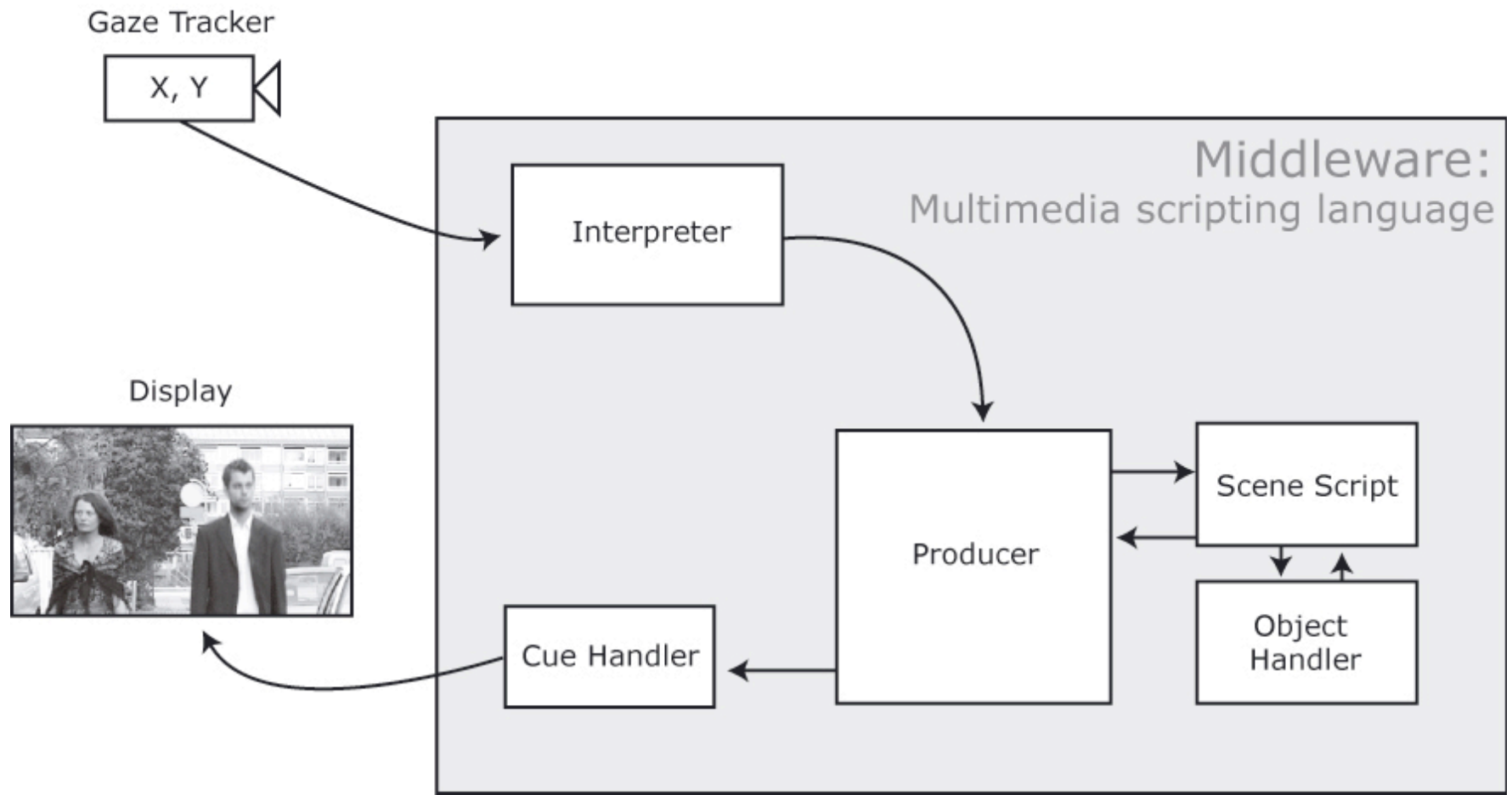
Figure 5.
(a) eyeCONTACT sensor.
(b) Light fixture with eyeCONTACT sensor.
(c) Attentive TV.
(d) eyePROXY.

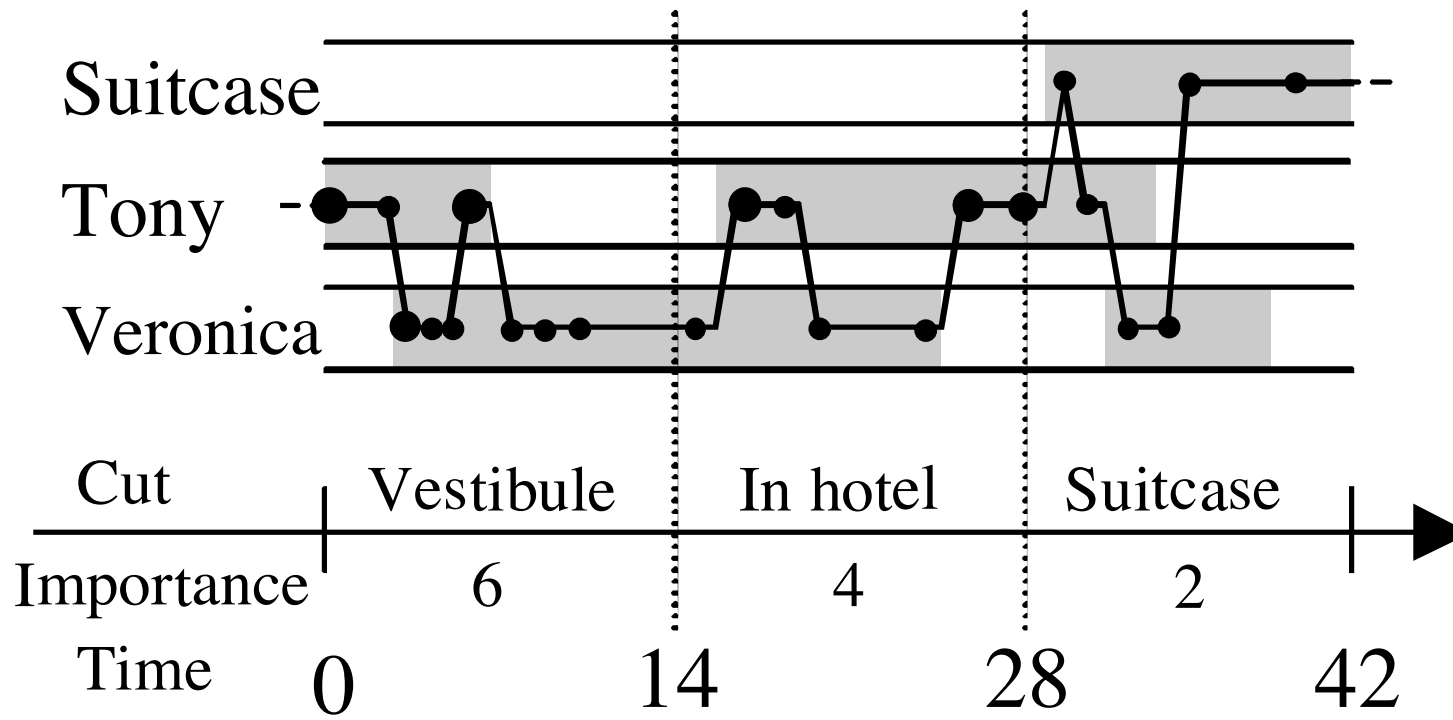
Taxonomi of Gaze Interactions (Jacob & Karn 2003, modif.)

Eye movements	System Response	Example
Natural	Natural	Starker and Bolt (1990)s Little Prince - telling details to the users natural scanning.
Natural	Un-natural	Midas touch: unintentionally activating objects just by looking at them.
Un-natural	Natural	Gaze typing
Un-natural	Un-natural	"Gaze reactive art"









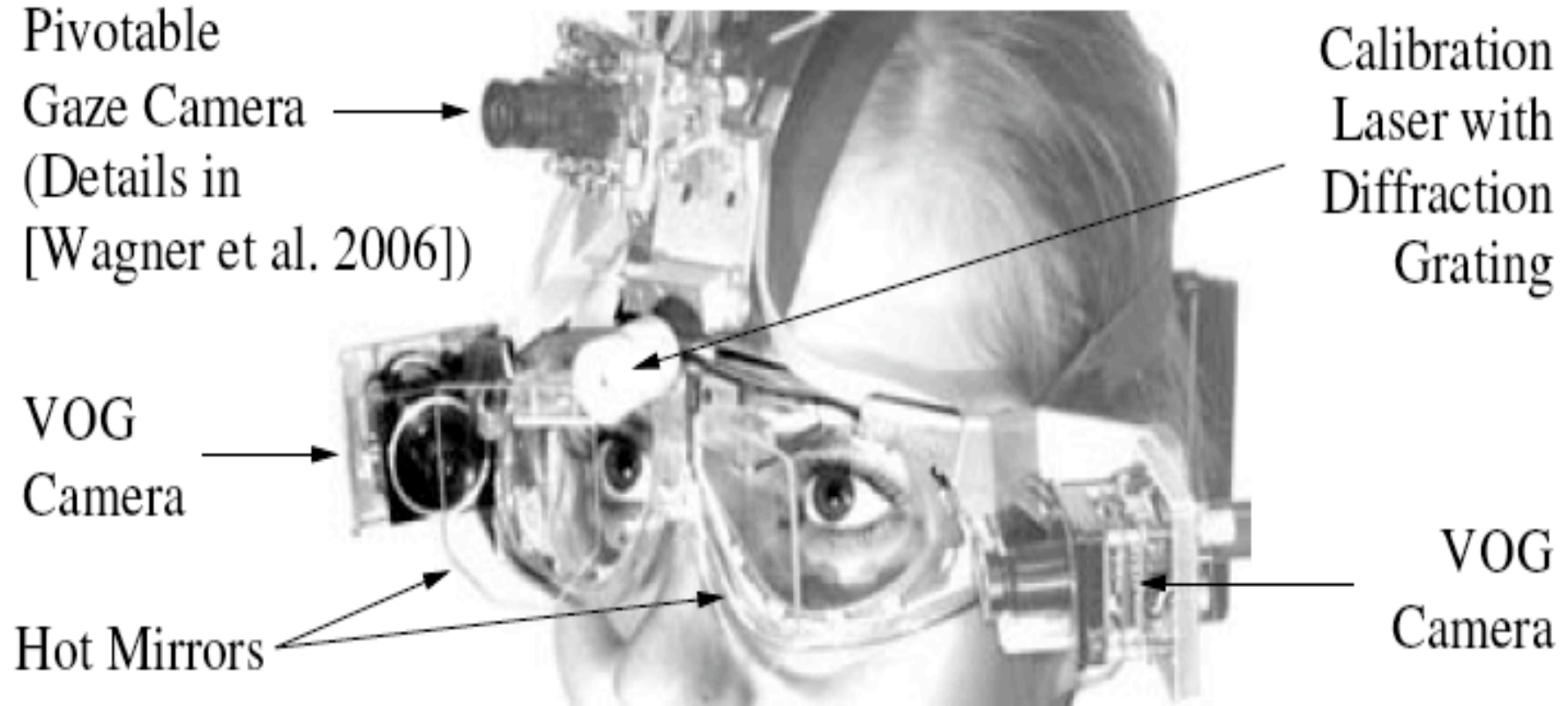
Gaze control of video games



- Control of character:
 - Navigation and aiming
- Easy to modify games for gaze interaction
- Huge market
- Good score measures
- No research yet!

What kind of gaze-games would
be fun?

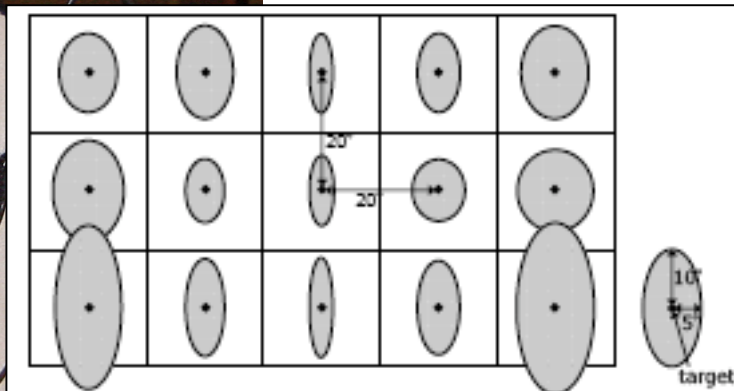
Gaze control of video



Video: Blikstyret video

Gaze interaction with all-life recordings

- EMG in earphones
- NTT/DOCOMO
- Seletion of visual links





Video chat system

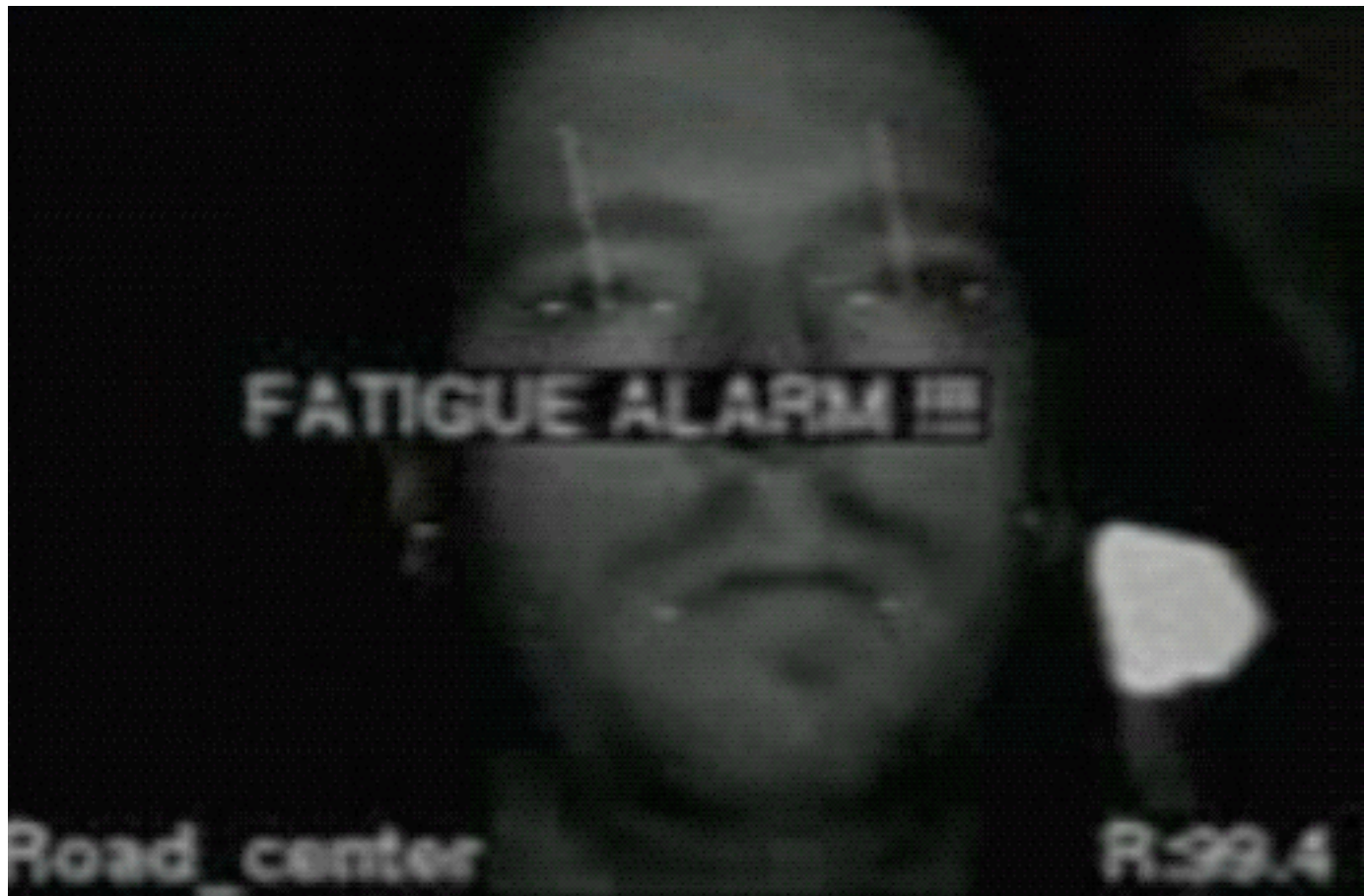


Gaze interaction for special tasks



- Industrial inspection
- Field-communication
- Security
- Medical information systems

Tracking in vehicles



Gaze control of panorama viewing



Gaze-assisted work with displays



- Repetitive Strain Injury
- Some research on combination of gaze and mouse
- Fatigue from day-long use of gaze-assisted systems are unknown



Emilie and Toro's
experiment to come!