



Blinking Extraction in Eye gaze System for Stereoscopy Movies

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Agenda

- **Eye gaze systems:**
 - Human eye
 - Eye detection and eye detection device
- **Blink:**
 - Eye lid closed
 - Blink detection

Human Eye

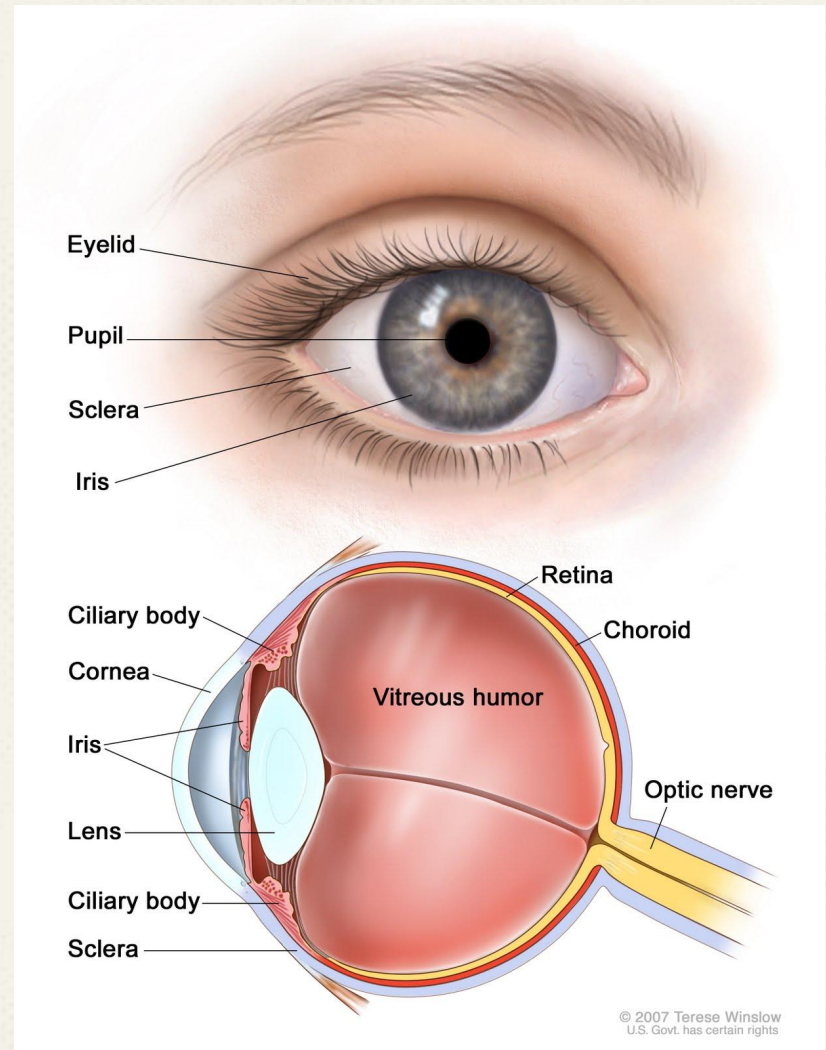
How is it build ?

Retina is a light-sensitive layer of tissue.

Pupil is a hole located in the center of the iris of the eye that allows light to strike the retina.

Iris is a thin, circular structure in the eye, responsible for controlling the diameter and size of the pupil and thus the amount of light reaching the retina.

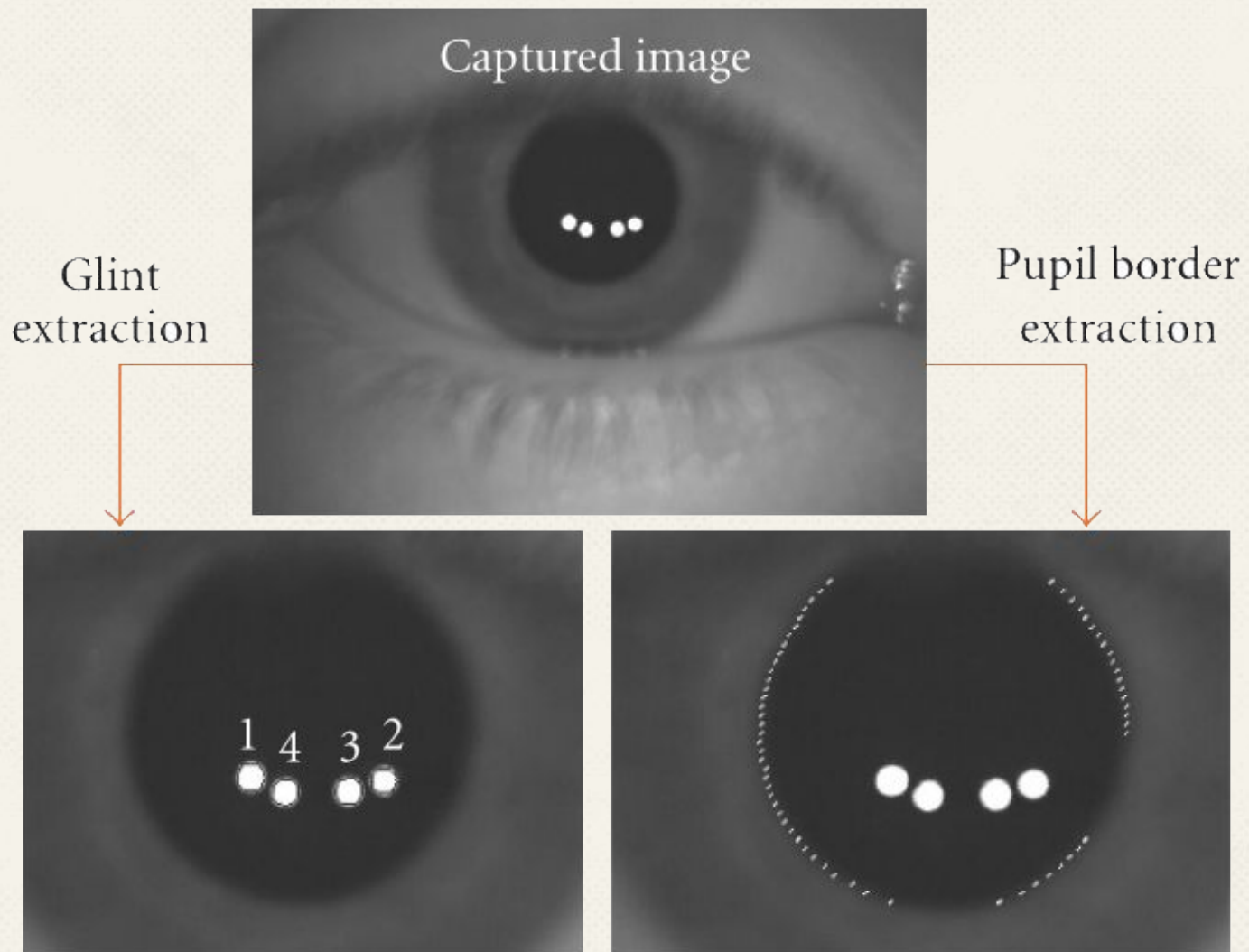
Eye lid is a thin fold of skin that covers and protects the human eye.



Picture 1. Anatomy of the eye

Eye gaze detection methods

How to find where are we looking?



Picture 2. Eye gaze position methods

Example devices



Picture 3. Tobii X2-60



Picture 4. EyeTribe



Closing the eyelid

What will happen when you close your eye?

Nature of blink

**Blinking is
semi-autonomic
rapid closing of
the eyelid.**

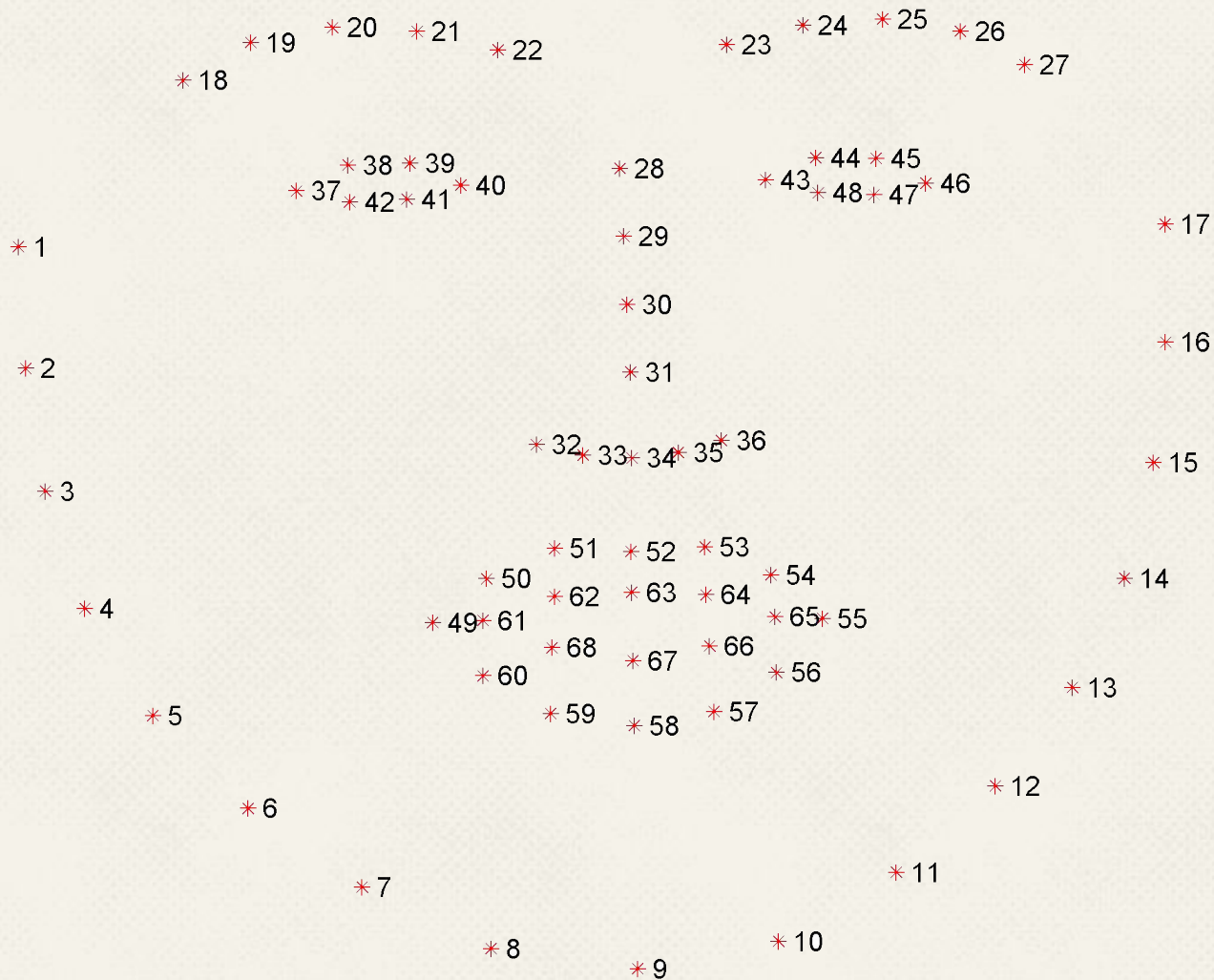


Picture 5. Animation of blink

Blink detection methods

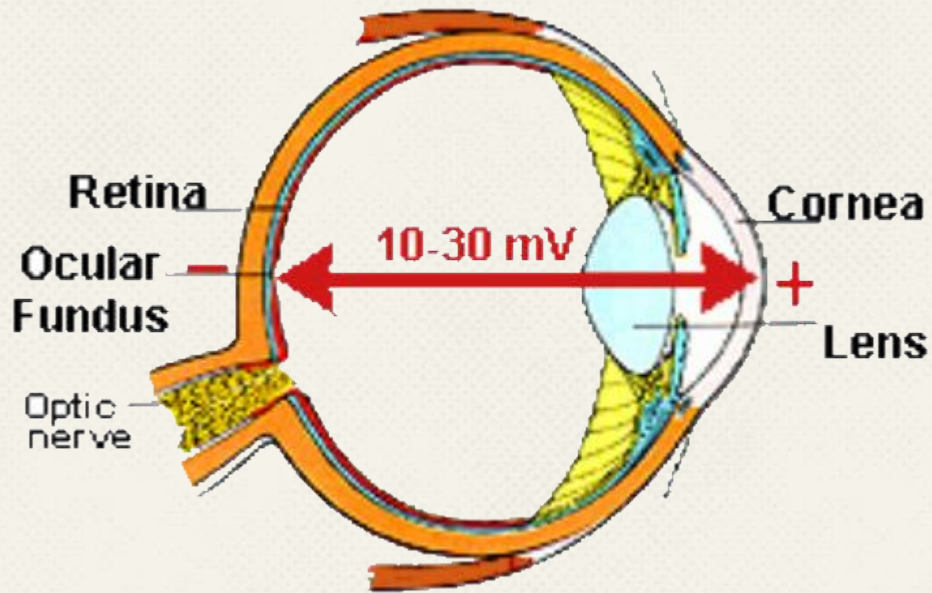
How to catch a blink?

Facial landmarks

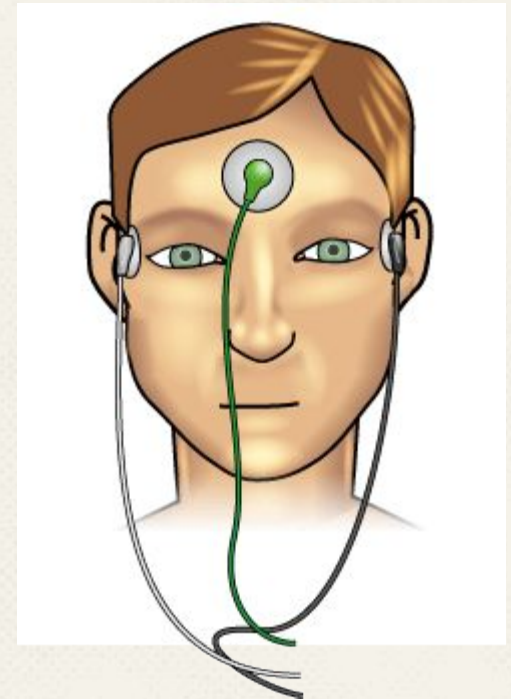


Picture 6. Facial landmarks points

Electrooculography

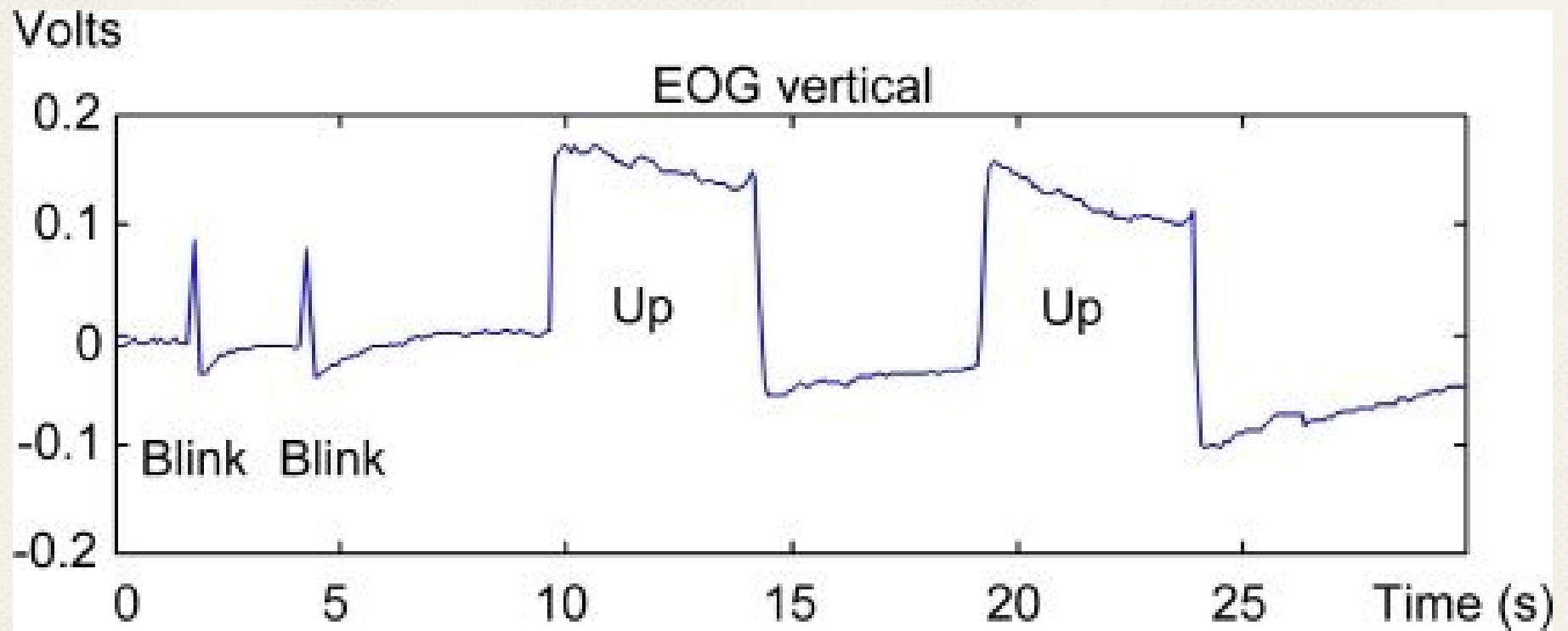


Picture 7. Electric potentials in eye



Picture 8. EOG electrode placement

Blink and Up eye movement



Picture 9. EOG signal

But why we blinked?

THANKS!

Any questions?

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And remember

