~~NEW~~ PATENT CLAIMS

1. Spectacles ~~(1)~~ having a frame ~~(2)~~, ~~wherein~~ the frame ~~(2)~~ havings at least one lens receptacle opening ~~(3)~~ for a lens, ~~and wherein the frame (2) has a~~ right nose frame part ~~(5)~~ and a left nose frame part ~~(6)~~, **~~characterized in that~~** a right eye acquisition camera ~~(7) is arranged in the right nose frame part (5)~~ for preparing a right eye video consisting of successive right individual images, and a left eye acquisition camera ~~(8) is arranged in the left nose frame part (6)~~ for preparing a left eye video consisting of successive left individual images, wherein the right eye acquisition camera is arranged in the right nose frame part and the left eye acquisition camera is arranged in the left nose frame part.

2. The spectacles ~~(1)~~ according to Claim 1, **~~characterized in that~~** wherein the right eye acquisition camera ~~(7)~~ is oriented on a right region ~~(9)~~, which right region ~~(9)~~ is arranged between 20 mm and 40 mm, in particular between 25 mm and 35 mm, to the right of a spectacles center ~~(10)~~ and spaced apart between 10 mm and 20 mm from the right eye acquisition camera ~~(7)~~, and the left eye acquisition camera ~~(8)~~ is oriented on a left region, which left region is arranged between 20 mm and 40 mm, in particular between 25 mm and 35 mm, to the left of the spectacles center ~~(10)~~ and spaced apart between 10 mm and 20 mm from the left eye acquisition camera ~~(8)~~.

3. The spectacles ~~(1)~~ according to Claim 1 or 2, **~~characterized in that~~** wherein the right eye acquisition camera ~~(7)~~ and/or the left eye acquisition camera ~~(8)~~ are arranged so they are pivotable about at least one axis, in particular about two axes, in the right nose frame part ~~(5)~~ or the left nose frame part ~~(6)~~, respectively.

4. The spectacles ~~(1)~~ according to any one of Claims 1 to 3, **~~characterized in that~~** wherein the spectacles ~~(1)~~ have at least one nose bridge receptacle ~~(11)~~, for accommodating at least one nose bridge ~~(12)~~, designed in particular as a saddle bridge.

5. The spectacles ~~(1)~~ according to any one of Claims 1 to 4, ~~**characterized in that**~~ wherein at least one field of vision camera ~~(13)~~ is arranged on the frame ~~(2)~~.

6. The spectacles ~~(1)~~ according to Claim 5, ~~**characterized in that**~~ wherein the at least one field of vision camera ~~(13)~~ is arranged in a region between the right nose frame part ~~(5)~~ and the left nose frame part ~~(6)~~.

7. The spectacles ~~(1)~~ according to any one of Claims 1 to 6, ~~**characterized in that**~~ wherein the spectacles ~~(1)~~ have a data processing unit ~~(17)~~ and a data interface ~~(18)~~, the data processing unit ~~(17)~~ is connected to the right eye acquisition camera ~~(7)~~ and the left eye acquisition camera ~~(8)~~, the spectacles ~~(1)~~ furthermore have an energy accumulator ~~(19)~~ for the energy supply of the right eye acquisition camera ~~(7)~~ and the left eye acquisition camera ~~(8)~~ and also the data processing unit ~~(17)~~ and the data interface ~~(18)~~, wherein preferably the data processing unit ~~(17)~~ and the data interface ~~(18)~~ are arranged in a first earpiece ~~(15)~~, which is connected to the frame ~~(2)~~, and further wherein preferably the energy accumulator ~~(19)~~ is arranged in a second earpiece ~~(16)~~, which is connected to the frame ~~(2)~~.

8. The spectacles ~~(1)~~ according to Claim 7, ~~**characterized in that**~~ wherein at least one illuminant ~~(26)~~, in particular an LED, is arranged on a front side of the spectacles ~~(1)~~, and the illuminant ~~(26)~~ is connected to the data processing unit ~~(17)~~, and the energy accumulator ~~(19)~~.

9. The spectacles ~~(1)~~ according to Claim 7 or 8, ~~**characterized in that**~~ wherein a lens having pre-definable changeable geometry is arranged in the at least one lens receptacle opening ~~(3)~~, and the lens is connected to the data processing unit ~~(17)~~.

10. The spectacles ~~(1)~~ according to any one of Claims 1 to 9, ~~**characterized in that**~~ wherein the frame ~~(2)~~ has a U-shaped nose receptacle recess for arranging the spectacles ~~(1)~~ on the nose of a human, and further wherein the right nose frame part ~~(5)~~ and the left nose frame part ~~(6)~~ laterally border the nose receptacle recess.

11. A system consisting of spectacles ~~(1)~~ according to any one of Claims 4 to 10, and a pre-definable number of different shaped nose bridges ~~(12)~~, for pre-definable adaptation of the spectacles ~~(1)~~ to different persons by replacement of the nose bridges ~~(12)~~.

12. A method for determining pupil center points of both eyes of a human, wherein the human wears spectacles ~~(1)~~ according to any one of Claims 1 to 10, wherein the right pupil of the human is acquired by the right eye acquisition camera ~~(7)~~, wherein the right eye acquisition camera ~~(7)~~ prepares a right eye video consisting of successive right individual images, wherein right pupil coordinates of a focal point – corresponding to the right pupil center point – are ascertained from the right individual images, wherein the left pupil of the human is acquired by the left eye acquisition camera ~~(8)~~, wherein the left eye acquisition camera ~~(8)~~ prepares a left eye video consisting of successive left eye images, wherein pupil coordinates of a focal point – corresponding to the left pupil center point – of the left pupil are ascertained from the left eye images, and wherein the right pupil center point and/or the left pupil center point is/or stored and/or output, **characterized in that** further wherein a reflective surface is arranged opposite to the human wearing the spectacles, to calibrate the spectacles ~~(1)~~, an illuminant ~~(26)~~ arranged on a front side of the spectacles ~~(26)~~ is activated, the human observes the image of the illuminant on the reflective surface and, while fixing on the image of the illuminant, moves his head into pre-definable positions at the same time.

13. The method according to Claim 12, **characterized in that** wherein to ascertain the pupil coordinates for each individual image of the eye video, using an image recognition program, automatically

- the contrasts of the pupil to the surroundings are registered
- all points of the individual image which are darker than a set degree of darkness are sought out,
- a dark area corresponding to the pupil is completely acquired and delimited using these points, and

the focal point of the dark area, which corresponds to the pupil center point having the pupil coordinates, is ascertained.

14. A method for determining a spontaneous blink of a human, wherein the human wears spectacles ~~(1)~~ according to any one of Claims 1 to 10, wherein the right pupil of the human is acquired by the right eye acquisition camera ~~(7)~~, wherein the right eye acquisition camera ~~(7)~~ prepares a right eye video consisting of successive right individual images, wherein right pupil coordinates of a focal point – corresponding to the right pupil center point – are ascertained from the right individual images, wherein the left pupil of the human is acquired by the left eye acquisition camera ~~(8)~~, wherein the left eye acquisition camera ~~(8)~~ prepares a left eye video consisting of successive left eye images, wherein pupil coordinates of a focal point – corresponding to the left pupil center point – of the left pupil are ascertained from the left eye images, and wherein the right pupil center point and/or the left pupil center point is/or stored and/or output, **characterized in that** ~~further wherein~~ the right eyelids are detected in the successive right eye images, wherein the left eyelids are detected in the successive left eye images, and wherein if a right eyelid conceals the right pupil center point in right eye image a and a left eyelid conceals the left pupil center point in a left eye image, a report of a spontaneous blink is generated and output and/or stored.

15. The method according to Claim 14, **characterized in that** wherein a visual downtime between the beginning of a spontaneous blink and the end of the same spontaneous blink is measured, and if the visual downtime exceeds a limiting time, a warning message is generated and/or output.

16. The method according to Claim 14 or 15, **characterized in that** wherein to ascertain the pupil coordinates for each individual image of the eye video, using an image recognition program,

automatically

- the contrasts of the pupil to the surroundings are registered

- all points of the individual image which are darker than a set degree of darkness are sought out,

- a dark area corresponding to the pupil is completely acquired and delimited using these points, and

the focal point of the dark area, which corresponds to the pupil center point having the pupil coordinates, is ascertained.

17. A method for ascertaining a focus distance of a human, wherein the human wears spectacles ~~(1)~~ according to any one of Claims 1 to 10, wherein the right pupil of the human is acquired by the right eye acquisition camera ~~(7)~~, wherein the right eye acquisition camera ~~(7)~~ prepares a right eye video consisting of successive right individual images, wherein right pupil coordinates of a focal point – corresponding to the right pupil center point – are ascertained from the right individual images, wherein the left pupil of the human is acquired by the left eye acquisition camera ~~(8)~~, wherein the left eye acquisition camera ~~(8)~~ prepares a left eye video consisting of successive left eye images, wherein pupil coordinates of a focal point – corresponding to the left pupil center point – of the left pupil are ascertained from the left eye images, and wherein the right pupil center point and/or the left pupil center point is/or stored and/or output, **characterized in that** further wherein an intraocular distance is ascertained from the pupil coordinates, wherein a right viewing angle is assigned to the right pupil coordinates, wherein a left viewing angle is assigned to the left pupil coordinates, and wherein the focus distance is ascertained from the interocular distance, the right viewing angle, and the left viewing angle, and preferably stored and/or output, in particular as a switching pulse.

18. The method according to Claim 17, **characterized in that** wherein at least one value, which is associated with the ascertained focus distance, is taken from a data memory of a data processing

unit for the geometrical determination of a lens, which is arranged in the lens receptacle opening, having pre-definable variable geometry, and the geometry of the lens is set on the basis of the value.

19. The method according to Claim 17 or 18, ~~characterized in that~~ wherein to ascertain the pupil coordinates for each individual image of the eye video, using an image recognition program, automatically

- the contrasts of the pupil to the surroundings are registered
- all points of the individual image which are darker than a set degree of darkness are sought out,
- a dark area corresponding to the pupil is completely acquired and delimited using these points, and

the focal point of the dark area, which corresponds to the pupil center point having the pupil coordinates, is ascertained.