CLAIMS

What is claim is:

1. A product comprising one or more tangible computer-readable non-transitory storage media comprising computer-executable instructions operable to, when executed by at least one computer processor, enable the at least one computer processor to implement operations of measuring a pupillary distance between pupils of a user, the operations comprising:

receiving, from an image capturing device, a captured image comprising first and second reflections of a light of a light source, the first reflection comprising a reflection of the light source from a first pupil of the user, and the second reflection comprising a reflection of the light source from a second pupil of the user;

determining an estimated distance between the image capturing device and the pupils of the user when the captured image is captured; and

determining the pupillary distance based on locations of the first and second reflections in the captured image and the estimated distance between the image capturing device and pupils of the user when the captured image is captured.

2. The product of claim 1, wherein the captured image comprises an object on a face of the user, the estimated distance is based on one or more dimensions of the object.

3. The product of claim 1, wherein the estimated distance is based on acceleration information indicating an acceleration of the image capturing device.

4. The product of any one of claims 1 to 3, wherein the operations comprise receiving orientation information indicating an orientation of the image capturing device when the image is captured, and determining the pupillary distance based on the orientation information.

5. The product of any one of claims 1 to 3, wherein the operations comprise determining the pupillary distance based on one or more attributes of the image capturing device.

6. The product of claim 5, wherein the one or more attributes comprise at least one attribute selected from a group consisting of an Effective Focal Length (EFL) of a lens of the

image capturing device, a horizontal field of view of a sensor of the image capturing device, a vertical field of view of the sensor, a resolution of the sensor, and a distance between two adjacent pixels of the sensor.

7. The product of any one of claims 1 to 3, wherein the operations comprise determining the pupillary distance based on an eye radius parameter and a distance between the image capturing device and a plane comprising the pupils.

8. A mobile device configured to measure a pupillary distance between pupils of a user, the mobile device comprising:

a camera to capture an image comprising first and second reflections of a light of a light source, the first reflection comprising a Purkinje image of the light source from a first pupil of the user, and the second reflection comprising a Purkinje image of the light source from a second pupil of the user; and

a pupillary distance calculator to receive the captured image, and to determine the pupillary distance based on locations of the Purkinje images in the captured image and an estimated distance between the mobile device and the pupils when the image is captured.

9. The mobile device of claim 8, wherein the captured image comprises an object on a face of the user, the estimated distance is based on one or more dimensions of the object.

10. The mobile device of claim 8 configured to determine the pupillary distance based on a number of pixels between the first and second reflections, and a pixel to millimeter (mm) ratio of the number of pixels.

11. The mobile device of any one of claims 8 to 10 configured to receive orientation information indicating an orientation of the mobile device when the image is captured and to determine the pupillary distance based on the orientation information.

12. The mobile device of any one of claims 8 to 10 configured to determine the pupillary distance based on one or more attributes of the mobile device.

13. The mobile device of any one of claims 8 to 10, wherein the pupillary distance calculator is configured to determine the pupillary distance based on an eye radius parameter and a distance between the mobile device and a plane comprising the pupils.

14. A method of measuring a pupillary distance between pupils of a user, the method comprising:

receiving, from an image capturing device, a captured image comprising first and second reflections of a light of a light source, the first reflection comprising a reflection of the light source from a first pupil of the user, and the second reflection comprising a reflection of the light source from a second pupil of the user;

determining an estimated distance between the image capturing device and the pupils of the user when the captured image is captured; and

determining the pupillary distance based on locations of the first and second reflections in the captured image and the estimated distance between the image capturing device and the pupils of the user when the captured image is captured.

15. The method of claim 14, wherein the captured image comprises an object on a face of the user, the estimated distance is based on one or more dimensions of the object.

16. The method of claim 15 comprising determining an axial offset between the object and the pupils along an axis perpendicular to a plane including the object, and determining the pupillary distance based on the axial offset.

17. The method of claim 14 comprising determining the pupillary distance based on a number of pixels between the first and second reflections, and a pixel to millimeter (mm) ratio of the number of pixels.

18. The method of any one of claims 14 to 17 comprising determining the pupillary distance based on one or more attributes of the image capturing device.

19. The method of claim 18, wherein the one or more attributes comprise at least one attribute selected from a group consisting of an Effective Focal Length (EFL) of a lens of the image capturing device, a horizontal field of view of a sensor of the image capturing device, a vertical field of view of the sensor, a resolution of the sensor, and a distance between two adjacent pixels of the sensor.

20. The method of any one of claims 14 to 17 comprising determining the pupillary distance based on an eye radius parameter and a distance between the image capturing device and a plane comprising the pupils.