CLAIMS

1. An ophthalmic lens system configured for interfacing with a predefined external device comprising at least a first ophthalmic lens, the first ophthalmic lens comprising:

a first set of electronic components configured for interfacing with the predefined external device;

a first soft lens portion configured for encapsulating at least a portion of the first set of electronic components; and

a privacy guard filter,

wherein the predefined external device comprises a privacy guard configured for limiting view of a screen, and wherein the privacy guard filter is configured for allowing the user to view the screen through the privacy guard.

2. The system of Claim 1, wherein the electronic components comprise:

a receiver configured for wirelessly receiving data from the predefined external device;

a processor in electrical communication with the power source and the receiver, wherein the processor is configured for of controlling the receiver;

a sensor in electrical communication with the processor, wherein the sensor is configured for detecting a user response, and wherein the processor is configured for generating user response data based on the user response;

a transmitter in electrical communication with the processor, wherein the transmitter is configured for transmitting response data to the predefined external device, and wherein the transmitting of response data is capable of triggering a predefined action in the predefined external device; and

conductive traces configured for interconnecting the electronic components.

3. The system of Claim 1, wherein the first soft lens portion comprises a polymerized reactive monomer mixture.

4. The system of Claim 1, wherein a wireless pairing between the first ophthalmic lens and the predefined external device is capable of enabling the interfacing between the ophthalmic lens system and the predefined external device.

5. The system of Claim 1, wherein the first ophthalmic lens further comprises an event notification mechanism configured for notifying a user of the ophthalmic lens system of a predefined event, wherein the predefined event is detectable by one or both the ophthalmic lens system or the predefined external device.

6. The system of Claim 1, wherein one or both the ophthalmic lens system and the predefined external device is at least configured for of programming or operating a functionality of the predefined external device or a functionality of the first ophthalmic lens.

7. The system of Claim 1 further comprising a second ophthalmic lens, wherein the second ophthalmic lens comprises:

a second set of electronic components configured for interfacing with the predefined external device;

a second soft lens portion configured for encapsulating at least a portion of the second set of electronic components.

8. The system of Claim 1, wherein the predefined external device comprises an operating system.

9. The system of Claim 1, wherein the external device is capable of automatically adjusting a brightness level of a screen of the external device, wherein the brightness level is based on a correlation between one or more a pupil size of a first eye wearing the first ophthalmic lens, a level of brightness of a screen, and a level of brightness of at least a first ambient light.

10. The system of Claim 1, wherein the ophthalmic lens system is configured for tracking a gaze of the first eye.

11. The system of Claim 1, wherein the ophthalmic lens system is configured for sampling for data from the predetermined external device at a plurality of rates.

12. The system of Claim 1, wherein the first set of electronic components further comprise a charge pump.

13. The system of Claim 2, wherein the receiver is capable of wirelessly receiving energy

from the predefined external device.

14. The system of Claim 2, wherein the electronic components further comprise a power source, wherein the conductive traces are configured for electrically connecting the power source with the receiver.

15. The system of Claim 7, wherein the ophthalmic lens system is configured for tracking a gaze of the first eye and a second eye wearing the second ophthalmic lens and a convergence between the first eye and the second eye.

16. The system of Claim 9, wherein the first ophthalmic lens further comprises a forward-facing light sensor, wherein the forward-facing light sensor is configured for measuring an ambient light proximate and external to the eye.

17. The system of Claim 10, wherein the first ophthalmic lens further comprises a first position detection mechanism configured for detecting eye movement or lid position for the first eye, and wherein the first ophthalmic lens is configured for transmitting position data to the predefined device.

18. The system of Claim 14, wherein the ophthalmic lens further comprises a media insert configured for encapsulating the electronic components, wherein the soft lens portion is configured for encapsulating at least a portion of the media insert.

19. The system of Claim 15, wherein a change in the convergence causes an adjustment in object sizes on the screen.

20. The system of Claim 15, wherein the ophthalmic lens system further comprises a variable optic portion configured for providing a plurality of lens powers through an optic region of the first eye and the second eye, and wherein a change in the convergence causes a change in lens power.

21. The system of Claim 15, wherein the ophthalmic lens system is capable of transmitting position data to the predefined external device, wherein position data derives from tracking the gaze and the convergence.

22. The system of Claim 16, wherein the external device further comprises at least a back light sensor and a front light sensor, wherein the back light sensor is configured for measuring an ambient light level external to the external device and in a direction opposite to the screen and the front light sensor is configured for measuring an ambient light level external to the external device and in the direction of the screen.

23. The system of Claim 17, wherein the transmission of the position data is capable of prompting a responsive action in the predefined external device.

24. The system of Claim 21, wherein the position data comprises the eye gesture capable of triggering an operation in the external device, wherein the eye gesture comprises a deliberate change in the gaze and/or convergence caused by the user.

25. The system of Claim 22, wherein the first ambient light comprises an overall ambient light level, wherein the overall ambient light level is calculated based on the ambient light measured by the back light sensor, the ambient light measured by the front light sensor, and the ambient light measured by the forward-facing light sensor.

26. The system of Claim 24, wherein one or both the first ophthalmic lens and the second ophthalmic lens further comprises an eyelid position detection mechanism capable of detecting an eyelid position of one or both the first eye and the second eye.

27. The system of Claim 25, wherein the position data comprises the eye gesture capable of triggering an operation in the external device, wherein the eye gesture comprises deliberate position change caused by the user.

28. The system of Claim 26, wherein the eye gesture further comprises a deliberate change in the eyelid position of one or both the first eye and the second eye.

CLAIMS

1. An ophthalmic lens system configured for interfacing with a predefined external device comprising at least a first ophthalmic lens, the first ophthalmic lens comprising:

a first set of electronic components configured for interfacing with the predefined external device;

a first soft lens portion configured for encapsulating at least a portion of the first set of electronic components; and

a privacy guard filter,

wherein the predefined external device comprises a privacy guard configured for limiting view of a screen, and wherein the privacy guard filter is configured for allowing a user to view the screen through the privacy guard.

2. The system according to Claim 1, wherein the electronic components comprise:

a receiver configured for wirelessly receiving data from the predefined external device;

a processor in electrical communication with a power source and the receiver, wherein the processor is configured for of controlling the receiver;

a sensor in electrical communication with the processor, wherein the sensor is configured for detecting a user response, and wherein the processor is configured for generating user response data based on the user response;

a transmitter in electrical communication with the processor, wherein the transmitter is configured for transmitting response data to the predefined external device, and wherein the transmitting of response data is capable of triggering a predefined action in the predefined external device; and

conductive traces configured for interconnecting the electronic components.

3. The system according to Claim 1, wherein the first soft lens portion comprises a polymerized reactive monomer mixture.

4. The system according to Claim 1, wherein a wireless pairing between the first ophthalmic lens and the predefined external device is capable of enabling the interfacing between the ophthalmic lens system and the predefined external device.

5. The system according to Claim 1, wherein the first ophthalmic lens further comprises an event notification mechanism configured for notifying a user of the ophthalmic lens system of a predefined event, wherein the predefined event is detectable by the ophthalmic lens system or the predefined external device, or the ophthalmic lens system together with the predefined external device.

6. The system according to Claim 1, wherein the ophthalmic lens system or the predefined external device, or the ophthalmic lens system together with the predefined external device is at least configured for of programming or operating a functionality of the predefined external device or a functionality of the first ophthalmic lens.

7. The system according to Claim 1 further comprising a second ophthalmic lens, wherein the second ophthalmic lens comprises:

a second set of electronic components configured for interfacing with the predefined external device;

a second soft lens portion configured for encapsulating at least a portion of the second set of electronic components.

8. The system according to Claim 1, wherein the predefined external device comprises an operating system.

9. The system according to Claim 1, wherein the external device is capable of automatically adjusting a brightness level of the screen of the external device, wherein the brightness level is based on a correlation between one or more a pupil size of a first eye wearing the first ophthalmic lens, a level of brightness of a screen, and a level of brightness of at least a first ambient light.

10. The system according to Claim 1, wherein the ophthalmic lens system is configured for tracking a gaze of a first eye.

11. The system according to Claim 1, wherein the ophthalmic lens system is configured for sampling for data from the predetermined external device at a plurality of rates.

12. The system according to Claim 1, wherein the first set of electronic components further

comprise a charge pump.

13. The system according to Claim 2, wherein the receiver is capable of wirelessly receiving energy from the predefined external device.

14. The system according to Claim 2, wherein the electronic components further comprise a power source, wherein the conductive traces are configured for electrically connecting the power source directly with the receiver.

15. The system according to Claim 7, wherein the ophthalmic lens system is configured for tracking a gaze of a first eye and a second eye wearing the second ophthalmic lens and a convergence between the first eye and the second eye.

16. The system according to Claim 9, wherein the first ophthalmic lens further comprises a forward-facing light sensor, wherein the forward-facing light sensor is configured for measuring an ambient light proximate and external to an eye.

17. The system according to Claim 10, wherein the first ophthalmic lens further comprises a first position detection mechanism configured for detecting eye movement or lid position for the first eye, and wherein the first ophthalmic lens is configured for transmitting position data to the predefined device.

18. The system according to Claim 14, wherein the first ophthalmic lens further comprises a media insert configured for encapsulating the electronic components, wherein the soft lens portion is configured for encapsulating at least a portion of the media insert.

19. The system according to Claim 15, wherein a change in the convergence causes an adjustment in object sizes on the screen.

20. The system according to Claim 15, wherein the ophthalmic lens system further comprises a variable optic portion configured for providing a plurality of lens powers through an optic region of the first eye and the second eye, and wherein a change in the convergence causes a change in lens power.

21. The system according to Claim 15, wherein the ophthalmic lens system is capable of transmitting position data to the predefined external device, wherein position data derives from tracking the gaze and the convergence.

22. The system according to Claim 16, wherein the external device further comprises at least a back light sensor and a front light sensor, wherein the back light sensor is configured for measuring an ambient light level external to the external device and in a direction opposite to the screen and the front light sensor is configured for measuring an ambient light level external to the external device and in the direction of the screen.

23. The system according to Claim 17, wherein the transmission of the position data is capable of prompting a responsive action in the predefined external device.

24. The system according to Claim 21, wherein the position data comprises an eye gesture capable of triggering an operation in the external device, wherein the eye gesture comprises a deliberate change in the gaze and/or convergence caused by the user.

25. The system according to Claim 22, wherein the first ambient light comprises an overall ambient light level, wherein the overall ambient light level is calculated based on the ambient light measured by the back light sensor, the ambient light measured by the front light sensor, and the ambient light measured by the forward-facing light sensor.

26. The system according to Claim 24, wherein one or both the first ophthalmic lens and the second ophthalmic lens further comprises an eyelid position detection mechanism capable of detecting an eyelid position of one or both the first eye and the second eye.

27. The system according to Claim 24, wherein the position data comprises the eye gesture capable of triggering an operation in the external device, wherein the eye gesture comprises deliberate position change caused by the user.

28. The system according to Claim 26, wherein the eye gesture further comprises a deliberate change in the eyelid position of one or both the first eye and the second eye.