CLAIMS

What is claimed is:

1. A continuous video capture apparatus, comprising:

glasses frames having:

a first temple having a first temple housing, and

a second temple having a second temple housing;

a power source located in the first temple housing;

a video capture camera;

a microphone; and

electronic circuitry located in the second temple housing, the electronic circuitry comprising:

a memory,

a processor,

a wireless radio, and

a capture button,

wherein the electronic circuitry is configured to continuously capture video from the video capture camera and microphone and maintain a most recent twenty seconds of video in the memory, and

wherein the capture button is engageable by a user to cause the electronic circuitry to send the most recent twenty seconds of video and a subsequent twenty seconds of video to an external device.

2. The continuous video capture apparatus of claim 1, further comprising a second power source located in the second temple housing.

3. The continuous video capture apparatus of claim 1, further comprising an eye-tracking camera mounted on the glasses frames, wherein the electronic circuitry is configured to acquire images from the eye-tracking camera, estimate a gaze direction of the user, and focus the video capture camera on an object in the gaze direction.

4. The continuous video capture apparatus of claim 3, further comprising an infrared light source mounted on the glasses frames, the infrared light source configured to generate a corneal reflection in the images from the eye-tracking camera, wherein the electronic circuitry is configured to estimate the gaze direction based on a pupil center and a location of the corneal reflection.

5. The continuous video capture apparatus of claim 1, wherein the power source comprises a user-removable battery.

6. The continuous video capture apparatus of claim 1, wherein the electronic circuitry further comprises an accelerometer.

7. The continuous video capture apparatus of claim 6, wherein the electronic circuitry is configured to send the most recent twenty seconds of video and a subsequent twenty seconds of video to the external device upon detection of a sudden acceleration by the accelerometer.

8. The continuous video capture apparatus of claim 1, wherein the electronic circuitry is configured to send the most recent twenty seconds of video and a subsequent twenty seconds of video to the external device upon receipt of a command from a second external device.

9. The continuous video capture apparatus of claim 8, wherein the second external device is a smartwatch.

10. A continuous video capture apparatus, comprising:

glasses;

a video capture camera attached to the glasses, the video capture camera having an image stabilizer;

an eye-tracking device attached to the glasses and configured to focus the video capture camera in the direction of a gaze of a user; and

a continuously-updated memory buffer configured to store a most recent twenty seconds of video from the video camera,

~~wherein the glasses are configured to end the most recent twenty seconds of video and a subsequent twenty seconds of video to an external device upon receipt of a command from the user.~~

~~11. The continuous video capture apparatus of claim 10, further comprising an accelerometer.~~

~~12. The continuous video capture apparatus of claim 11, wherein the glasses are configured to send the most recent twenty seconds of video and a subsequent twenty seconds of video to the external device upon detection of a sudden acceleration by the accelerometer.~~

~~13. The continuous video capture apparatus of claim 10, further comprising a light configured to illuminate from back to front corresponding to a placement of video into the memory buffer.~~

~~14. The continuous video capture apparatus of claim 13, wherein the light comprises a row of light-emitting diodes.~~

~~15. The continuous video capture apparatus of claim 10, wherein additional image stabilization is performed through digital signal processing.~~

~~16~~1. A continuous video capture apparatus, comprising:

glasses, comprising:

a first temple having a first temple housing, and

a second temple having a second temple housing;

a battery located in the first temple housing;

a camera mounted on the glasses;

a capture button located on the second temple housing; and

video capture circuitry located in the second temple housing and comprising:

a processor, and

a computer-readable medium containing instructions that when executed cause the processor to:

allocate memory to a buffer, the memory comprising an original

portion of the buffer;

receive raw video data from the camera;

encode the received video data;

place the encoded video in ~~a~~ the buffer at a data end position;

update the data end position to a next available address in the buffer; and

update a data start position to a location corresponding to twenty seconds of video behind the data end position,

wherein the capture button is configured, upon receiving a single press, to cause the processor to:

allocate memory to extend the buffer, resulting in an extended portion of the buffer to support an additional twenty seconds of video;

save the ~~current~~ data end position and update it to point to an address at the beginning of the extended portion of the buffer;

save the ~~contents of an~~ encoded video in the original portion of the buffer to a file;

receive an additional twenty seconds of video from the camera;

encode the additional twenty seconds of video as it is received and place it in the extended portion of the buffer;

add the encoded video in ~~contents of~~ the extended ~~new~~ portion of the buffer to the file;

deallocate the ~~old~~ original portion of the buffer; and

send the file to an external device, and

wherein the capture button is configured, upon receiving a double press, to cause the processor to:

execute a loop in which the processor:

allocates memory to extend the buffer,

save the data end position and update it to point to a second extended portion of the buffer,

saves the encoded video in the original portion and extended portion of the buffer to a file,

receive additional raw video from the camera;

encode the additional raw video as it is received and place it in the second extended portion of the buffer;

adds the encoded video in the second extended portion of the buffer to the file, and

deallocates the original portion of the buffer;

terminate the loop when the capture button is pressed an additional time;

finish saving the encoded video data and close the file; and

send the file to an external device.

~~17. The continuous video capture apparatus of claim 16, wherein the capture button is configured, upon receiving a double press, to cause the processor to:~~

~~execute a loop in which the processor:~~

~~allocates memory to extend the buffer,~~

~~save the current data end position and update it to point to the new portion of the buffer,~~

~~saves the contents of an original portion of the buffer to a file,~~

~~adds the contents of an extended portion of the buffer to the file, and~~

~~deallocates the old portion of the buffer;~~

~~terminate the loop when the capture button is pressed an additional time;~~

~~finish saving the encoded video data and close the file; and~~

~~send the file to an external device.~~

~~18~~2. The video capture apparatus of claim ~~16~~1, further comprising a second battery located in the second temple housing.

~~193~~. The video capture apparatus of claim ~~161~~, further comprising an eye-tracking device attached to the glasses and configured to focus the camera in the direction of a gaze of a user.

~~204~~. The video capture apparatus of claim ~~161~~, further comprising a light configured to illuminate from a first end to a second end ~~back to front~~ corresponding to a placement of video into the original portion and extended portion of the ~~memory~~ buffer.