

CLAIMS:

1. A wearable visualization system, comprising:
a wearable visualization device, comprising:
a housing;
a display coupled to the housing and configured to display an image for a user; and
a camera coupled to the housing and configured to capture the image; and
a computer system configured to receive the image from the camera and to compare the image to a master image to determine if the image matches the master image.
2. The wearable visualization system of claim 1, wherein the computer system is configured to control the display in response to the comparison between the image and the master image.
3. The wearable visualization system of claim 1, wherein the camera is oriented toward the display.
4. The wearable visualization system of claim 1, wherein the camera is oriented in a direction away from the display, and the camera is configured to capture the image on an eye of the user.
5. The wearable visualization system of claim 4, wherein the computer system is configured to process the image to remove distorting effects of eye curvature and eye image.
6. The wearable visualization system of claim 1, wherein the wearable visualization device comprises one or more sensors.

7. The wearable visualization system of claim 6, wherein the wearable visualization device is configured to use feedback from the one or more sensors to determine the master image.
8. The wearable visualization system of claim 1, wherein the image is a test image comprising one or more patterns.
9. A method of calibrating a wearable visualization system, the method comprising:
 - detecting with a computer system an orientation of a wearable visualization device;
 - capturing with a camera an image produced on a display of the wearable visualization device;
 - determining with the computer system a master image in response to the orientation of the wearable visualization device; and
 - comparing with the computer system the image to the master image to determine if the image matches the master image.
10. The method of claim 9, comprising determining with the computer system a location of the wearable visualization device.
11. The method of claim 10, determining with the computer system the master image using the location of the wearable visualization device.
12. The method of claim 9, comprising controlling with the computer system the display in response to the comparing with the computer system of the image to the master image.

13. The method of claim 9, wherein capturing with the camera the image produced by the display comprises capturing with the camera the image directly from the display.

14. The method of claim 9, wherein capturing with the camera the image produced by the display comprises capturing with the camera the image from an eye of a user.

15. The method of claim 14, comprising processing with the computer system the image to remove distorting effects of eye curvature and eye image.

16. A method of calibrating a wearable visualization system, the method comprising:
detecting with a computer system an operation of a wearable visualization device;
capturing with a camera a test image produced on a display of the wearable visualization device; and
comparing with the computer system the test image captured by the camera to a master image to determine if the test image matches the master image.

17. The method of claim 16, comprising generating with the computer system a ready signal in response to determining with the computer system that the test image matches the master image.

18. The method of claim 16, comprising generating with the computer system an error signal in response to determining with the computer system that the test image does not match the master image.

19. The method of claim 16, comprising controlling with the computer system the display in response to determining with the computer system that the test image does not match the master image.

20. The method of claim 19, comprising generating with the computer system a second test image in response to controlling the display with the computer system, and capturing with the camera the second test image and comparing with the computer system the second test image captured by the camera to the master image.