CLAIMS

1. A system, comprising:

a projection device configured to project one or more images onto a receiver surface; a viewing device configured to be worn by a user and comprising a frame holding a screen and a focusing lens, wherein: the screen comprises the receiver surface and a viewing surface disposed opposite the receiver surface, and the screen is configured to permit transmission of the projected one or more images through the screen from the receiver surface to the viewing surface such that the projected one or more images are viewable on the viewing surface; and the focusing lens is configured to focus the projected one or more images viewable on the viewing surface for the user when wearing the viewing device; and a tracking system configured to determine a location and orientation of the receiver surface of the viewing device, wherein the projection device is configured to adjust image properties of the projected one or more images based at least in part on the determined location and orientation of the receiver surface.

2. The system of claim 1, wherein the image properties comprise a distortion, an offset, a scale, or some combination thereof.

3. The system of claim 1, wherein the viewing device comprises an infrared transceiver configured to output infrared location signals to the tracking system, wherein the tracking system is configured to receive the infrared location signals and determine the location and orientation of the viewing device based at least in part on the infrared location signals.

4. The system of claim 1, wherein the viewing device comprises a passive infrared tracking feature, wherein the tracking system comprises an infrared device configured to detect the passive infrared tracking feature and determine the location and orientation of the viewing device based at least in part on detection of the passive infrared tracking feature.

5. The system of claim 4, wherein the passive infrared tracking feature comprises an infrared ink pattern, infrared LED illuminators, or both.

6. The system of claim 1, wherein the tracking system comprises a camera configured to detect an optically visible tracking feature disposed on the viewing device, wherein the tracking system is configured to determine the location and orientation of the viewing device based at least in part on the detected optically visible tracking feature.

7. The system of claim 6, wherein the optically visible tracking feature comprises a retroreflective marker, QR codes, optically visible ink patterns, or some combination thereof.

8. The system of claim 1, wherein the viewing device comprises a global positioning system (GPS) device configured to output a GPS signal to the tracking system, and wherein the tracking system is configured to determine the location of the viewing device based at least in part on the GPS signal.

9. The system of claim 1, wherein the projection device is configured to project the one or more images based on image projection instructions received from a control system.

10. The system of claim 1, wherein the one or more images are configured to communicate a text-based message, a picture, a video, or some combination thereof.

11. The system of claim 1, comprising a reflective surface configured to reflect the projected one or more images onto the receiver surface of the screen of the viewing device.

12. The system of claim 1, comprising a projection device actuator configured to move the projection device based at least in part on the location and orientation of the viewing device.

13. The system of claim 1, wherein the tracking system is configured to determine changes in the location and orientation of the receiver surface of the viewing device relative to the one or more projection devices, wherein the one or more projection devices are separate from the viewing device and wherein the projection device is configured to adjust the image properties based on the determined changes in location and orientations.

14. The system of claim 1, wherein the screen comprises a rear projection material, wherein the rear projection material is translucent such that the projected one or more images are projected through the screen from the receiver surface to the viewing surface.

15. A method, comprising:

determining a location and orientation of a viewing device via a tracking system, wherein the viewing device is configured to be worn by a user and comprises a frame configured to hold a screen and a focusing lens;

adjusting image properties of one or more images, via one or more projection devices, based at least in part on the location and orientation of the viewing device; and

projecting the one or more images, via the one or more projection devices, onto a receiver surface of the screen of the viewing device, wherein a viewing surface of the screen is disposed opposite the receiver surface, wherein the screen is configured to permit transmission of the one

or more images through the screen from the receiver surface to the viewing surface such that the one or more images are viewable for the user on the viewing surface through the focusing lens.

16. The method of claim 15, wherein the image properties comprise a distortion, an offset, a scale, or some combination thereof.

17. The method of claim 15, wherein the viewing device comprises a passive infrared tracking feature, wherein the tracking system is configured to detect the passive infrared tracking feature and determine the location and orientation of the viewing device based at least in part on detection of the passive infrared tracking feature.

18. The method of claim 15, wherein the tracking system comprises a camera configured to detect an optically visible tracking feature disposed on the viewing device, wherein the tracking system is configured to determine the location and orientation of the viewing device based at least in part on the detected optically visible tracking feature.