CLAIMS:

1. An image correction system, comprising:

a head-mounted display comprising:

a display configured to display one or more corrected images; and

one or more sensors configured to generate tracking information over a period of time, the tracking information comprising initial tracking information and updated tracking information, wherein the initial tracking information is associated with a first time point and the updated tracking information is associated with a second time point subsequent to the first time point;

a server configured to generate one or more rendered images based at least in part on the initial tracking information; and

a local correction device configured to:

receive the tracking information from the head-mounted display;

transmit the initial tracking information to the server;

receive the one or more rendered images from the server;

generate one or more corrected images based on the one or more rendered images and the updated tracking information; and

transmit the one or more corrected images to the head-mounted display, wherein the local correction device and the head-mounted display are positioned on or in a ride vehicle, and wherein the local correction device is coupled to at least one additional head-mounted display of the ride vehicle.

2. The image correction system of claim 1, wherein the local correction device is configured to generate the one or more corrected images by correcting for lens distortion associated with the head-mounted display.

3. The image correction system of claim 2, wherein the local correction device is configured to generate the one or more corrected images by applying one or more of timewarp, spacewarp, lens distortion factor corrections, or late latch corrections.

4. The image correction system of claim 3, wherein correcting for the lens distortion factor occurs subsequent to applying the one or more of timewarp, spacewarp, or late latch corrections.

5. The image correction system of claim 1, wherein the local correction device is affixed to or embedded in a housing of the head-mounted display.

6. The image correction system of claim 1, wherein the local correction device is wirelessly coupled to the server.

7. The image correction system of claim 6, wherein the local correction device is coupled to the head-mounted display via a wired connection.

8. The image correction system of claim 1, wherein the local correction device transmits one or more corrected images to no more than one head-mounted display.

9. The image correction system of claim 1, wherein the one or more sensors comprise at least a camera and an inertial measurement unit (IMU) that generate tracking information.

10. The image correction system of claim 9, wherein the tracking information generated by the camera is communicated to the local correction device and subsequently the server, and the tracking information generated by the IMU is communicated to the local correction device and not the server.

11. An image correction method, comprising:

generating, at a server, one or more rendered images of an augmented reality/virtual reality (AR/VR) environment, wherein the one or more rendered images comprise at least one frame that is rendered based on tracking information;

receiving, at a local correction device, the one or more rendered images;

applying a first stage correction to the one or more rendered images at the local correction device, wherein the first stage correction is based on updated tracking information;

applying a second stage correction to the one or more rendered images to generate one or more corrected images, wherein the second stage correction is a distortion correction associated with a lens of a head-mounted display; and

transmitting the one or more corrected images to the head-mounted display, wherein the local correction device and the head-mounted display are positioned on or in a ride vehicle,

and wherein the local correction device is coupled to at least one additional head-mounted display of the ride vehicle.

12. The image correction method of claim 11, wherein the head-mounted display comprises a projector, and the distortion correction is a function of distortions of display surfaces on which a projected image will be displayed.

13. The image correction method of claim 11, wherein the local correction device or the head-mounted display is configured to apply a third stage correction to the one or more rendered images.

14. The image correction method of claim 11, wherein the tracking information is generated at the head-mounted display and communicated to the server via the local correction device.

15. The image correction method of claim 11, wherein the updated tracking information is generated at the head-mounted display and communicated to the local correction device and not to the server.

16. A non-transitory computer-readable medium, the computer-readable medium comprising processor-executable code that when executed by a processor, causes the processor to:

receive one or more rendered images of an augmented reality/virtual reality (AR/VR) environment, wherein the one or more rendered images comprise at least one frame that is rendered based on tracking information;

apply a first stage correction to the one or more rendered images, wherein the first stage correction is based on updated tracking information;

apply a second stage correction to the one or more rendered images to generate one or more corrected images, wherein the second stage correction is a distortion correction associated with a head-mounted display; and

transmit the one or more corrected images to the head-mounted display, wherein the first stage correction is applied by a local correction device, and wherein the head-mounted display and the local correction device are positioned on or in a ride vehicle and wherein the local correction device is coupled to at least one additional head-mounted display of the ride vehicle.

17. The non-transitory computer-readable medium of claim 16, wherein the processor-executable code, when executed by the processor, causes the processor to:

receive the tracking information from the head-mounted display; and

transmit the tracking information to a server configured to generate the one or more rendered images of the AR/VR environment.

18. The non-transitory computer-readable medium of claim 16, wherein the distortion correction is one or more of timewarp, spacewarp, lens distortion factor corrections, or late latch corrections.