CLAIMS:

1. A method, comprising:

projecting image-based media onto a display with a projector, wherein the display is attached to a first side of a wall opposite a second side of the wall from which the display is viewable by an observer, and wherein the display is positioned over an opening in the wall;

display mapping of the projected image-based media using a compound curvature of a surface of the display to produce a substantially undistorted simulation of an environment, the simulated environment having an appearance of being behind the surface of the display such that the display acts as a window through the wall and into the simulated environment; and

enabling the observer to view the simulated environment from multiple perspectives, each perspective providing a different view of the simulated environment, using the compound curvature of the surface and by terminating view directions of the display beyond the extents of the opening in the wall.

2. The method of claim 1, wherein projecting the image-based media onto the display with the projector comprises projecting the image-based media from a projection perspective that is below and behind the display relative to the observer, and the compound curvature of the display causes pixel mapping of the image-based media to a greater extent at an upper portion of the display compared to a lower portion of the display, wherein the lower amount of pixel mapping at the lower position relative to the upper position enables the observer to view a portion of the simulated environment appearing to be situated below the observer.

3. The method of claim 2, comprising:

enabling greater pixel resolution of the simulated environment at the lower portion compared to the upper portion using a first and second curvature of the compound curvature, wherein the first curvature is along the lower portion of the surface and along a plane oriented orthogonal relative to the wall, the second curvature is along the upper portion of the surface and along the plane, and wherein the first curvature has a greater degree of curvature relative to the second curvature; and

enabling a substantially undistorted view of the simulated environment in the center of the display using a substantially non-curved section of the surface, wherein the substantially non-curved section of the surface connects the first and second curvatures.

4. The method of claim 1, comprising moving an enclosure having the wall, and substantially maintaining a position of the screen relative to the projector using a mounting assembly that mounts the screen and the projector together to the enclosure such that vibrations experienced from the movement are substantially the same for the screen and projector.

5. A system, comprising:

a viewing region bounded at least partially by a wall having an opening;

a display screen mounted on the wall and positioned over the opening, wherein the display screen comprises:

edges that extend beyond the opening;

curvatures that curve the display screen toward and away from the wall in at least two directions and about at least two axes, wherein the edges and the curvatures terminate a viewing cone of the display screen outside of the viewing region, wherein the viewing cone of the display screen represents all view directions from which an image displayed by the display screen can be observed via the opening; and

a projector positioned in a projection region separated from the viewing region by the wall, wherein the projector is configured to project the image onto a projection surface of the display screen.

6. The system of claim 5, comprising an access panel configured to provide access to the projector from the viewing region through the wall, wherein the projector is positioned on a track configured to move the projector from the projection region, through an opening in the wall vacated by the access panel, and into the viewing region.

7. The system of claim 5, wherein the projector is an ultra-short throw projector, and the projector comprises a halogen light source, a light emitting diode (LED) light source, a laser light source, a liquid crystal on silicon (LCOS) light source, or any combination thereof.

8. The system of claim 5, wherein the projector is configured to project the image using stereoscopy onto the projection surface of the display screen, wherein the projector is communicatively coupled to control circuitry configured to control the projector, and wherein the control circuitry is configured to cause the projector to project alternating or simultaneous pairs of images to generate a three-dimensional effect for the image when viewed using active or passive three-dimensional glasses, respectively.

9. The system of claim 5, wherein the projector and one or more additional projectors are configured to collectively project the image onto the projection surface of the display screen, wherein the projector and the one or more additional projectors are communicatively coupled to control circuitry configured to control the projector and the one or more additional projectors, wherein the control circuitry is configured to cause the projector and the one or more additional projectors to simultaneously project partial images onto the display surface to form the image, and wherein the control circuitry is configured to edge blend the partial images to mask a transition from one partial image to another.

10. The system of claim 5, comprising a window pane disposed within the opening, wherein the window pane comprises regions of surface modification configured to blur one or more portions of the image displayed by the screen to mask certain undesired distortions of the image.

11. The system of claim 10, wherein the curvatures comprise:

a first curvature positioned at a bottom portion of the display screen, and the first curvature enables the display screen to simulate a portion of an environment that is situated underneath an observer viewing the display screen;

a second curvature positioned at an upper portion of the display screen, and the second curvature enables the display screen to simulate a portion of an environment that is situated above the observer; and

a third and fourth curvatures positioned at opposite sides of the display screen wherein the third and fourth curvatures are configured to simulate portions of an environment situated to the left and right of the observer, respectively.

12. The system of claim 11, wherein the second curvature is along a plane oriented orthogonal relative to the wall and along a height of the display screen, and the second curvature is asymmetric.

13. The system of claim 11, wherein a first degree of curvature of the first curvature is greater than a second degree of curvature of the second curvature.

14. The system of claim 11, wherein the first, second, third, and fourth curvatures are all connected by a substantially flat portion of the display screen.

15. The system of claim 5, comprising a non-transitory, machine-readable medium in communication with the projector and storing data representative of the image, wherein the projection surface is opposite from a display surface of the display screen, and the curvatures extend into the projection region, wherein the wall is located on a passenger platform that is a part of a transportation system, and the display screen is configured to display a simulated environment that is a simulated moving environment synchronized with movement of the transportation system.

16. The system of claim 15, wherein the image is intentionally pre-conditioned such that when projected onto the display screen, display warping of the image caused by angles of incidence formed between a perspective from which the projector projects the image and the curvatures of the display screen causes a simulated environment to appear substantially undistorted on the display screen.

17. The system of claim 5, wherein the first curvature is away from the observer.

18. The system of claim 5, wherein the projection surface is on an opposite side of the display screen compared to a display surface on which the media displayed by the display screen can be observed.