CLAIMS:

1. An augmented reality system for an amusement ride, comprising:

~~1.~~ a guest-tracking sensor configured to determine a position of a guest;

a projector configured to project imagery;

a semi-transparent mirror configured to reflect the imagery as augmented reality imagery, wherein the guest is disposed on a first side of the semi-transparent mirror; and

a controller comprising a processor and a memory, wherein the controller is configured to:

receive a first sensor signal indicative of ~~the~~a first position of the guest from the guest-tracking sensor;

generate image data based on the first position of the guest; ~~and~~

output a first control signal indicative of the image data to the projector, wherein the projector is configured to project the imagery based on the first control signal indicative of the image data~~.~~;

~~The augmented reality system of claim 1, wherein an object is disposed on a first side of the semi-transparent mirror,~~receive a second sensor signal indicative of a second position of the guest from the guest ~~is positioned on a second~~ -tracking sensor;

update the image data as updated image data in response to receiving the second sensor signal; and

output a second control signal indicative of the updated image data to the projector, wherein the projector is configured to project updated imagery based on the second control signal, and wherein the updated imagery causes the augmented reality imagery to appear to move relative to an object disposed on a second side of the semi-transparent mirror opposite ~~of~~ the first side~~, and~~ via a parallax effect.

~~2.~~ 2. The augmented reality system of claim 1, wherein the imagery is configured to appear as three-dimensional (3D) imagery when viewed through 3D eyewear, wherein

the 3D eyewear comprises stereoscopic glasses that enable viewing the imagery as the 3D imagery.

~~3.~~ 3. The augmented reality system of claim 2, wherein the augmented reality imagery is configured to interact with the object from a perspective of the guest.

~~4.~~ 4. The augmented reality system of claim 2, comprising the 3D eyewear, wherein the 3D eyewear is configured to cause the augmented reality imagery to appear as the 3D imagery from a perspective of the guest wearing the 3D eyewear.

~~5.~~ 5. The augmented reality system of claim 1, wherein the controller is configured to iteratively update the imagery based on the position of the guest.

~~6.~~ 6. The augmented reality system of claim 1, wherein the controller is configured to generate the imagery based on a user input, a time sequence, or a combination thereof.

~~7.~~ 7. The augmented reality system of claim 1, wherein the guest-tracking sensor is configured to detect retro-reflected infrared light.

~~8.~~ 8. The augmented reality system of claim 1, wherein the semi-transparent mirror is disposed between a 30 degree and a 60 degree angle relative to the projector.

~~9.~~ 9. The augmented reality system of claim 1, wherein the projector is disposed above or below the semi-transparent mirror and is hidden from a perspective of the guest.

10. The augmented reality system of claim 1, wherein the controller is configured to update the image data by moving a first portion of the augmented reality imagery more than a second portion of the augmented reality imagery, wherein the first portion of the augmented reality imagery appears to be farther from the guest relative to the second portion of the augmented reality imagery.

11. The augmented reality system of claim 1, wherein the first position of the guest and the second position of the guest comprise positions of the guest's head, eyes, one or more facial features, another portion of the guest, or any combination thereof.

12. The augmented reality system of claim 1, wherein the controller is configured to:

receive a third sensor signal indicative of an absence of the guest on the first side of the semi-transparent mirror; and

output a third control signal indicative of instructions to stop providing the imagery or the updated imagery to the projector, wherein the projector is configured to stop projecting the imagery or the updated imagery based on the third control signal.

~~10.~~ 13. A method for generating augmented reality imagery for an amusement ride, comprising:

receiving an indication of a first position of a guest;

generating, in response to receiving the indication of the first position of the guest, image data based on the first position of the guest;

projecting imagery, based on the image data, onto a semi-transparent mirror~~; and~~ , wherein the guest is disposed on a first side of the semi-transparent mirror;

reflecting the imagery as augmented reality imagery toward the guest for viewing by the guest, wherein the augmented reality imagery ~~is configured to appear~~ appears as three-–dimensional (3D) imagery when viewed through 3D eyewear~~.~~, wherein the 3D eyewear comprises stereoscopic glasses that enable viewing the augmented reality imagery as the 3D imagery;

receiving an indication of a second position of the guest;

updating the image data as updated image data in response to receiving the indication of the second position of the guest;

projecting updated imagery, based on the updated image data, onto the semi-transparent mirror; and

reflecting the updated imagery as the augmented reality imagery toward the guest for viewing by the guest, wherein the updated imagery causes the augmented reality imagery to appear to move relative to an object disposed on a second side of the semi-transparent mirror opposite the first side via a parallax effect.

~~11.~~ 14. The method of claim ~~10, comprising updating the image data based on a second position of the guest.~~

~~12.~~ ~~The method of claim 10~~13, wherein the imagery comprises two or more two-dimensional (2D) images configured to appear as the 3D imagery when viewed through the 3D eyewear.

15. The method of claim 13, comprising receiving an indication of a position of the object located on the second side of the semi-transparent mirror.

~~13.~~ 16. The method of claim ~~10, comprising receiving an indication of a position of an object located on a first side of the semi transparent mirror, wherein the position of the guest is located on a second side of the semi-transparent mirror, and the first side is opposite of the second side.~~

~~14.~~ ~~The method of claim 13,~~ 15, comprising adjusting the image data based on the position of the object.

17. An augmented reality system for an amusement ride, comprising:

~~15.~~ a guest-tracking sensor configured to determine a position of a guest;

a three-dimensional (3D) projector configured to project imagery;

a semi-transparent mirror configured to reflect the imagery as augmented reality imagery, wherein the guest is disposed on a first side of the semi-transparent mirror;

~~3D eyewear; and~~

3D eyewear comprising stereoscopic glasses configured to enable viewing the augmented reality imagery as a 3D environment; and

a controller comprising a processor and a memory, wherein the controller is configured to:

receive a first sensor signal indicative of ~~the~~a first position of the guest from the guest-tracking sensor;

generate image data based on the first position of the guest; and

output a first control signal indicative of the image data to the 3D projector such that the first control signal causes the 3D projector to project the imagery onto the semi-transparent mirror based on the image data~~.~~;

~~The augmented reality system of~~receive a second sensor signal indicative of ~~claim 15~~a second position of the guest from the guest-tracking sensor;

update the image data as updated image data in response to receiving the second sensor signal; and

~~16.~~ output a second control signal indicative of the updated image data to the projector, wherein the ~~controller~~projector is configured to ~~generate the image data to cause the augmented reality~~project updated imagery ~~to appear as a 3D environment when viewed through the 3D eyewear.~~

~~17. The augmented reality system of claim 15, wherein the controller is configured to update the image data~~ based on ~~an~~the second control signal, and the updated ~~position of the guest to cause~~imagery causes the augmented reality imagery to appear to move relative to ~~one or more objects~~an object disposed on a second side of the semi-transparent mirror opposite ~~of~~ the ~~guest~~first side via a parallax effect.

~~18.~~ 18. The augmented reality system of claim ~~15, wherein the controller is configured to adjust the image data based on the position of the guest.~~

~~19.~~ ~~The augmented reality system of claim 15~~17, wherein the guest-tracking sensor comprises a marker disposed within the 3D eyewear, and the marker is configured to transmit positional data indicative of the position of the guest.

19. The augmented reality system of claim ~~15~~18, wherein the marker comprises a Quick Response (“QR”) code, a bar code, or a retroreflective marker that reflects infrared light.

~~20.~~ 20. The augmented reality system of claim 17, wherein the guest-tracking sensor comprises a camera configured to determine the position of the guest.