CLAIMS

1. An attraction system, comprising:

a sensor configured to determine a measured color property of a portion of an image projected by a projector onto a projection surface of a prop; and

a control system communicatively coupled to the sensor, wherein the control system is configured to:

receive, from the sensor, data indicative of the measured color property;

determine a difference between the measured color property and a target color property associated with the sensor exceeds a threshold value; and

adjust operation of the attraction system based on the determination that the difference between the measured color property and the target color property associated with the sensor exceeds the threshold value, wherein adjusting operation of the attraction system comprises adjusting a position of the prop, adjusting a position of the projector, adjusting the image projected by the projector, outputting a notification that the difference between the measured color property and the target color property associated with the sensor exceeds the threshold value, or a combination thereof.

2. The attraction system of claim 1, wherein the control system is configured to:

control movement of the prop; and

operate the projector to project the image onto the prop based on the movement of the prop.

3. The attraction system of claim 2, wherein the control system is configured to determine the target color property of the image based on the movement of the prop.

4. The attraction system of claim 1, wherein the sensor is embedded beneath an exterior surface of the prop.

5. The attraction system of claim 1, wherein the control system is configured to:

operate the attraction system in a calibration mode;

receive, from the sensor during operation of the attraction system in the calibration mode, initial data indicative of a determined color property; and

determine the target color property based on the determined color property indicated by the initial data received during operation of the attraction system in the calibration mode.

6. The attraction system of claim 1, wherein the control system is configured to:

receive operation data associated with an operation of the attraction system, wherein the operation data associates respective target color properties at a particular location on the projection surface with time stamps of the operation;

determine a particular time stamp of the operation; and

determine the target color property based on the particular time stamp and the operation data.

7. A non-transitory computer-readable medium, comprising instructions, wherein the instructions, when executed by processing circuitry, are configured to cause the processing circuitry to perform operations comprising:

receiving sensor data from one or more sensors of an attraction system, wherein the sensor data comprises measured color properties of an image projected onto a prop of the attraction system by a projector;

determining target color properties associated with the image;

determining a difference between a measured color property of the measured color properties and a target color property of the target color properties exceeds a threshold value; and

adjusting operation of the attraction system based on the determination that the difference between the measured color property and the target color property exceeds the threshold value, wherein adjusting operation of the attraction system comprises adjusting a position of the prop, adjusting a position of the projector, adjusting the image projected by the projector, outputting a notification that the difference between the measured color property and the target color property exceeds the threshold value, or a combination thereof.

8. The non-transitory computer-readable medium of claim 7, wherein the instructions, when executed by the processing circuitry, are configured to cause the processing circuitry to perform operations comprising:

determining an operation of the attraction system from a plurality of operations, wherein each operation of the plurality of operations is associated with respective target color properties of the image; and

determining the target color properties associated with the image based on the operation determined from the plurality of operations.

9. The non-transitory computer-readable medium of claim 7, wherein the instructions, when

executed by the processing circuitry, are configured to cause the processing circuitry to perform operations comprising:

determining a first location of the prop monitored by the one or more sensors and associated with the measured color properties in response to determining the difference exceeds the threshold value:

determining a second location of a pixel of the image having the target color properties; and

operating the attraction system to align the first location and the second location with one another.

10. The non-transitory computer-readable medium of claim 9, wherein the instructions, when executed by the processing circuitry, are configured to cause the processing circuitry to adjust the image projected by the projector, adjust a position of the projector, adjust a position of the prop, or any combination thereof to align the first location and the second location with one another.

11. The non-transitory computer-readable medium of claim 7, wherein the instructions, when executed by the processing circuitry, are configured to cause the processing circuitry to perform operations comprising:

receiving a three-dimensional (3-D) model representative of the prop, wherein the 3-D model generates respective target color properties of various portions of the prop; and

determining the target color properties based on the 3-D model.

12. The non-transitory computer-readable medium of claim 11, wherein the 3-D model comprises real-time rendering associated with movement of the prop, and the instructions, when executed by the processing circuitry, are configured to cause the processing circuitry to perform operations comprising:

determining additional target color properties associated with an additional image projected onto the prop by the projector based on the real-time rendering;

receiving additional sensor data from the one or more sensors, wherein the additional sensor data comprises additional measured color properties of the additional image;

determining a difference between an additional measured color property of the additional measured color properties and an additional target color property of the additional target color properties exceeds an additional threshold value; and

adjusting operation of the attraction system based on the determination that the difference between the additional measured color property and the additional target color property exceeds the additional threshold value, wherein adjusting operation of the attraction system comprises adjusting a position of the prop, adjusting a position of the projector, adjusting the image projected by the projector , outputting a notification that the difference between the additional measured color property and the

additional target color property exceeds the additional threshold value, or a combination thereof..

13. The non-transitory computer-readable medium of claim 7, wherein the instructions, when executed by the processing circuitry, are configured to cause the processing circuitry to perform operations comprising:

modifying the measured color properties, the target color properties, or both, based on external lighting projected onto the prop; and

comparing the measured color properties and the target color properties with one another after modifying the measured color properties, the target color properties, or both.

14. An attraction system, comprising:

a prop;

a projector configured to project an image onto the prop; and

a control system configured to:

determine a measured color property of a portion of the image projected onto the prop based on data from a sensor of the prop;

determine a target color property of the portion of the image;

determine a difference between the measured color property and the target color property exceeds a threshold value; and

adjust operation of the attraction system based on the determination that the difference between the measured color property and the target color property exceeds a threshold value, wherein adjusting operation of the attraction system comprises adjusting a position of the prop, adjusting a position of the projector, adjusting the image projected by the projector, outputting a notification that the difference between the measured color property and the target color property exceeds the threshold value, or a combination thereof.

15. The attraction system of claim 14, wherein the control system is configured to:

determine, based on data received from the sensor, an additional measured color property of a portion of an additional image projected onto the prop as a result of movement of the prop; and

determine an additional target color property of the portion of the additional image;

determine a difference between the additional measured color property and the additional target color property exceeds an additional threshold value; and

adjust the operation of the attraction system based on the determination that the difference between the additional measured color property and the additional target color property exceeding the

additional threshold value, wherein adjusting operation of the attraction system comprises adjusting a position of the prop, adjusting a position of the projector, adjusting the image projected by the projector, outputting a notification that the difference between the additional measured color property and the additional target color property exceeds the additional threshold value, or a combination thereof.

16. The attraction system of claim 14, wherein the control system is configured to:
identify a pixel of the image based on the pixel having the measured color property;
determine a measured location of the pixel;
determine a target location of the pixel; and
adjust the operation of the attraction system to align the measured location and the target location with one another.

17. The attraction system of claim 16, wherein the control system is configured to:
determine a location being monitored by the sensor; and
determine the measured location of the pixel based on the location monitored by the sensor.