CLAIMS:

~~1.~~ 1. A variable interactive effect system for controlling activation of an interactive effect, the system comprising:

one or more sensors configured to generate a signal;

a system controller configured to receive the signal and configured to:

validate the signal as being valid input for the interactive effect;

determine whether the validated signal matches at least one preprogrammed interaction of the interactive effect;

after determining whether the validated signal matches the at least one preprogrammed interaction, determine ~~a~~an intensity score of the validated signal based on evaluating information of the validated signal with one or more intensity metrics to produce the intensity score of the validated signal; and

generate instructions to control the interactive effect based on the intensity score and

on whether the validated signal matches the at least one preprogrammed interaction of the interactive effect, wherein the instructions comprise first variable activation instructions configured to cause a first level of activation of the interactive effect associated with the intensity score when the validated signal matches the at least one preprogrammed interaction of the interactive effect and second variable activation instructions configured to cause a second level of activation of the interactive effect associated with the intensity score when the validated signal does not match any preprogrammed interaction of the interactive effect, wherein ~~a variable of~~ the first ~~variable~~level of activation ~~instructions,~~of the interactive effect is at a different intensity than the second ~~variable~~level of activation ~~instructions, or both is set by the score~~of the interactive effect; and

an interactive effect controller configured to activate the interactive effect based on the first variable activation instructions or the second variable activation instructions.

~~2.~~ 2. The variable interactive effect system of claim 1, wherein the one or more sensors comprise image sensors, radio frequency sensors, optical sensors, or any combination thereof.

~~3.~~ 3. The variable interactive effect system of claim 1, wherein the one or more intensity metrics comprise a voice intensity, a gesture velocity, or a gesture trajectory.

4. 4. The variable interactive effect system of claim 1, wherein the one or more metrics comprise a gesture velocity or trajectory.

5. The variable interactive effect system of claim 1, wherein validating the signal comprises detecting that a guest is stationary and within a predetermined distance of the interactive effect.

6. 5. The variable interactive effect system of claim 54, wherein the one or more sensors are configured to detect movement of a guest-associated object and wherein the validating the signal further comprises detecting that the movement is nonrandom.

7. 6. The variable interactive effect system of claim 54, wherein the one or more sensors are configured to detect voiceaudio signals of the guest and wherein validating the signal further comprises detecting a specific word or phrase in the voiceaudio signals.

8. 7. The variable interactive effect system of claim 76, wherein the second variable activation instructions are generated when additional detected words in the validated signal do not match any preprogrammed interaction of the interactive effect.

9. 8. The variable interactive effect system of claim 1, wherein the second variable activation instructions comprise selecting a an activation mode of the interactive effect and adjusting a level of activation of the interactive effect based on the intensity score.

10. 9. The variable interactive effect system of claim 1, wherein the first variable activation instructions comprise selecting a mode from a modeset of available activation modes of the interactive effect based on the match of the at least one preprogrammed interaction and adjusting a level of activation of the interactive effect based on the intensity score.

~~11.~~ 10. A method of activating an interactive effect, the method comprising:

receiving data from one or more sensors, the data indicative of a valid input from a guest to an interactive effect, wherein the data comprises a detected value of the valid input from the one or more sensors;

estimating a potential input range for the guest based at least in part on the data;

determining ~~a~~an intensity score associated with the detected value within an intensity scale for the valid input based on the estimated potential input range; and ~~the data; and~~

generating instructions to activate the interactive effect based on the intensity score, wherein the generated instructions adjust an activation level of the interactive effect based on the intensity score.

~~12.~~ 11. The method of claim ~~11~~10, wherein the data comprises voice volume or intensity data, and wherein the estimated potential input range comprises an estimated volume range for the guest.

~~13.~~ 12. The method of claim ~~11~~10, wherein the data comprises velocity data, and wherein the estimated potential input range comprises an estimated velocity range for the guest.

~~14.~~ 13. The method of claim ~~11~~10, wherein the data comprises movement data of the guest or a guest-associated object, and wherein the estimated potential input range comprises an estimated range of motion for the guest.

~~15.~~ 14. The method of claim ~~11~~10, wherein adjusting the activation level of the interactive effect comprises adjusting a speed, volume, and/or intensity of the interactive effect to match the intensity score, wherein the activation level is scaled to a range of the intensity score.

~~16.~~ 15. The method of ~~claim 11~~10, wherein adjusting the activation level of the interactive effect comprises activating media associated with the intensity score.

~~17.~~ 16. The method of ~~claim 11~~10, wherein adjusting the activation level of the interactive effect comprises matching a light intensity of a light source to the intensity score.

17. The method of claim 10, comprising receiving second data from the one or more sensors, the data indicative of a second valid input from a second guest to the interactive effect;

estimating a second potential input range for the second guest based at least in part on the second data;

determining a second intensity score within the intensity scale for the second valid input based on the estimated second potential input range and the second data; and

generating second instructions to activate the interactive effect based on the second intensity score, wherein the generated second instructions adjust the activation level of the interactive effect based on the second intensity score.

18. The method of claim 10, wherein the data comprises guest identification information, a guest age, guest profile preferences, or a combination thereof.

~~18.~~ 19. A variable interactive effect system for controlling activation of an interactive effect, the system comprising:

a system controller configured to receive input data from one or more sensors in an interactive environment that comprises an interactive effect, the system controller configured to:

validate the input data as being a valid input to the interactive effect; ~~determine that the input data does not match a preprogrammed interaction~~

determine that the input data does not match a preprogrammed interaction with the interactive effect;

assess the input data according to one or more intensity metrics to generate ~~a~~an intensity score~~;~~ associated with the input data; and

generate ~~-~~instructions configured to ~~-control~~ activate the ~~-~~interactive ~~-~~effect based on the intensity score,

wherein a ~~variable~~greater intensity score causes selection of a first activation level associated with a higher activation intensity of the ~~instructions is set by~~interactive effect relative to a lesser intensity score that causes selection of a second activation level associated with a lower activation intensity of the ~~score~~interactive effect; and

an interactive effect controller configured to activate the interactive effect according to a selected activation level based on the instructions.

~~19.~~ 20. The variable interactive effect system of ~~-~~ claim ~~18~~19, wherein a dynamic range of the interactive effect is scaled to a range of the intensity score.

~~20.~~ 21. The variable interactive effect system of ~~-~~ claim ~~18~~19, wherein the one or more intensity metrics comprise ~~an input intensity metric.~~

~~21. The variable interactive effect system of claim 20, wherein the input intensity metric is based on~~ at least a velocity of guest movement, a trajectory of guest movement, or intensity characteristics of guest ~~voice~~audio data.

~~22.~~ 22. The variable interactive effect system of ~~-~~ claim 21, wherein the intensity characteristics of the guest ~~voice~~audio data comprise volume and speed of speech.

23. A variable interactive effect system for controlling an interactive effect, the system comprising:

one or more sensors configured to monitor one or more guests in an interactive environment;

at least one controller configured to receive a signal from the one or more sensors, the signal comprising input information, location information, or both, associated with a guest of the one or more guests, wherein the at least one controller comprises command logic configured to:

identify, using a validation layer of the command logic, the signal as being valid input based on the input information, the location information indicating the guest being within the interactive environment, or both;

generate instructions to control the interactive effect based on the signal being identified as valid input, wherein the instructions comprise adjusting the interactive effect based on the input information; and

cause the interactive effect to be adjusted based on the instructions.

24. The variable interactive effect system of claim 23, wherein the one or more sensors comprise image sensors, radio frequency sensors, optical sensors, or any combination thereof.

25. The variable interactive effect system of claim 23, wherein the command logic is configured to:

assess the input information according to one or more intensity metrics; and

adjust the interactive effect based on the one or more intensity metrics, wherein the one or more intensity metrics comprise a voice intensity, a gesture velocity, a gesture trajectory, or a combination thereof.

26. The variable interactive effect system of claim 25, wherein a greater intensity level causes the controller to select a first activation level associated with a higher activation intensity of the interactive effect relative to a lesser intensity score that causes the controller to select a second activation level associated with a lower activation intensity of the interactive effect.

27. The variable interactive effect system of claim 23, wherein the signal is identified as being valid input for the interactive effect based on the location information indicating that the guest is within the interactive environment for a predetermined amount of time.

28. The variable interactive effect system of claim 23, wherein the signal is identified as being valid input for the interactive effect based on the location information indicating that the guest is stationary for a predetermined amount of time.

29. The variable interactive effect system of claim 23, wherein the input information comprises audio information associated with the guest, and wherein the signal is identified as being valid input for the interactive effect based detecting a valid word or phrase in the audio information.

30. The variable interactive effect system of claim 23, wherein the input information comprises position information, motion information, or both, associated with the guest, and wherein the signal is identified as being valid input for the interactive effect based on an intensity associated with the position information, the motion information, or both, exceeding a predetermined intensity threshold value.

31. The variable interactive effect system of claim 30, wherein the signal is received from an interactive object associated with the guest, and wherein the position information, the motion information, or both, are associated with the interactive object.

32. A method of controlling an interactive effect, the method comprising:

receiving an input from a sensor of the interactive effect;

determining that the input passes as a valid input for the interactive effect based at least on a duration of time associated with a threshold duration of time established by a validation layer; and

transmitting instructions to adjust the interactive effect based on the input being the valid input, wherein the instructions are configured to cause adjustment of the interactive effect based on the valid input.

33. The method of claim 32, wherein the sensor comprises an image sensor, a radio frequency sensor, an optical sensor, or any combination thereof.

34. The method of claim 32, further comprising:

assessing the valid input according to one or more intensity metrics to determine an intensity level, wherein the one or more intensity metrics comprise a voice intensity, a gesture velocity, a gesture trajectory, or a combination thereof.

35. The method of claim 34, further comprising adjusting the interactive effect to a first level of activation of the interactive effect associated with the determined intensity level when the input matches at least one preprogrammed interaction of the interactive effect and adjusting the interactive effect to a second level of activation of the interactive effect associated with the determined intensity level when the input does not match any preprogrammed interaction of the interactive effect, wherein the first level of activation of the interactive effect is at a different intensity than the second level of activation of the interactive effect.

36. The method of claim 32, wherein input is associated with a guest within an interactive environment of the interactive effect, and the method further comprises:

receiving information associated with the input;

estimating a potential input range for the guest based at least in part on the information; and

determining an intensity level associated with the input within an intensity scale for the valid input based on the estimated potential input range.

37. The method of claim 36, wherein the information comprises voice volume or intensity data, and wherein the estimated potential input range comprises an estimated volume range for the guest.

38. The method of claim 36, wherein the information comprises velocity data, and wherein the estimated potential input range comprises an estimated velocity range for the guest.

39. The method of claim 36, wherein the information comprises movement data of the guest or a guest-associated object, and wherein the estimated potential input range comprises an estimated range of motion for the guest.

40. The method of claim 36, wherein the information comprises guest identification information, a guest age, guest profile preferences, or a combination thereof.

41. An interactive effect system comprising:

one or more sensors configured to monitor one or more guests in an interactive environment;

a controller, wherein the controller comprises command logic configured to:

receive a plurality of inputs from the one or more sensors;

distinguish between valid inputs and not valid inputs of the plurality of inputs using a validation layer of the command logic;

generate instructions to adjust an interactive effect using characteristics of one or more sensor signals associated with the valid inputs; and

adjust the interactive effect based on the instructions.

42. The system of claim 41, wherein the controller is configured to:

adjust a threshold between a valid input and a not valid input based on additional sensor feedback.