CLAIMS:

1. An actuatable surface system for entertainment venues comprising:

a plurality of actuatable assemblies, wherein an individual actuatable assembly of the plurality of actuatable assemblies comprises:

a flexible membrane;

a bracket at least partially sealing the flexible membrane within the bracket; and

a fluid conduit configured to apply fluid to a rear side of the flexible membrane to cause the flexible membrane to form a raised structure relative to the bracket;

a frame holding the plurality of actuatable assemblies;

a surface layer coupled to the plurality of actuatable assemblies and in contact with at least a portion of a front side of flexible membranes of the plurality of actuatable assemblies, wherein the front side opposes the rear side and the surface layer is configured to move together with the flexible membranes when the flexible membranes are in the raised structure, and wherein the bracket is different from the frame and the bracket is positioned between the frame and the surface layer; and

a controller configured to address each individual actuatable assembly of the plurality of actuatable assemblies to cause fluid to be applied through the fluid conduit to form the raised structure.

2. The actuatable surface system of claim 1, wherein the controller is configured to control the initiation of an actuation pattern to cause a first subset of the plurality of actuatable assemblies to form the raised structure at a first time point and a second subset of the plurality of actuatable assemblies to form the raised structure at a second time point.

3. The actuatable surface system of claim 2, wherein the actuation pattern is initiated in response to the controller receiving a signal from a proximity sensor indicative of a presence of a user.

4. The actuatable surface system of claim 1, comprising wireless communication circuitry configured to receive a wireless signal from a user device, wherein an actuation pattern causing a subset of the plurality of actuatable assemblies to form respective raised structures is initiated in response to the controller receiving the wireless signal from the user device.

5. The actuatable surface system of claim 4, wherein the controller is configured to control the process of verifying that a user associated with the user device has permission to initiate the activation pattern before initiating the actuation pattern.

6. The actuatable surface system of claim 4, wherein the user device is a handheld device, a mobile device, or a user-worn device.

7. The actuatable surface system of claim 1, wherein the controller is configured to cause the fluid conduit to apply a negative pressure to draw the flexible membrane towards an inlet of the fluid conduit to reverse formation of the raised structure.

8. The actuatable surface system of claim 1, wherein a default state of each actuatable assembly is substantially flush with or recessed within the bracket.

9. The actuatable surface system of claim 1, wherein the fluid conduit extends through a portion of the bracket.

10. The actuatable surface system of claim 1, wherein each actuatable assembly comprises a light emitting diode coupled to the bracket.

11. The actuatable surface system of claim 1, wherein the fluid conduit is coupled to a solenoid valve addressable by the controller to cause the solenoid valve to apply the fluid.

12. The actuatable surface system of claim 1, wherein the plurality of actuatable assemblies are arranged in an array in which individual brackets of the plurality of actuatable assemblies are positioned adjacent to at least one other bracket.

13. The actuatable surface system of claim 12, wherein the individual brackets are arranged to form a plurality of gaps or notches to permit a negative pressure field to be applied through the plurality of gaps or notches to the surface layer from a rear side of the individual brackets to draw the surface layer towards the individual brackets.

14. The actuatable surface system of claim 1, wherein the surface layer is formed from an elastic material.

15. A system comprising:

a projection surface configured to display an image on a viewer side of the projection surface;

a projector configured to project the image onto the viewer side of the projection surface;

a plurality of actuatable assemblies coupled to a rear side of the projection surface, wherein the rear side is opposite the viewer side, and wherein each individual actuatable assembly of the plurality of actuatable assemblies comprises a flexible membrane and a fluid conduit configured to apply fluid to the flexible membrane to cause the flexible membrane to form a raised structure such that a portion of the projection surface protrudes; and

a controller comprising a memory and a processor, wherein the controller is configured to output signals to the projector to cause the image to be projected onto the

projection surface, and wherein the controller is configured to provide instructions to a subset of the plurality of actuatable assemblies to form a pattern of respective raised structures based at least in part on the image.

16. The system of claim 15, wherein the controller is configured to cause the projector to transition from projecting the image to projecting one or more additional images to generate an animation effect, and wherein the controller is configured to update the instructions to a different subset of the plurality of actuatable assemblies to form a new pattern of respective raised structures based at least in part on the one or more additional images.

17. The system of claim 15, wherein the plurality of actuatable assemblies are arranged in an array.

18. The system of claim 17, wherein the array comprises a plurality of through passages, and wherein the system further comprises a negative pressure source configured to apply a negative pressure field to the projection surface to draw the projection surface towards the flexible membrane.

19. The system of claim 15, wherein the projection surface is formed from an elastic material that stretches to accommodate the respective raised structures.

20. A method, comprising:

receiving an initiation signal from a controller;

controlling a first subset of solenoid valves of a plurality of solenoid valves to open in a first direction based on receiving the initiation signal, wherein each of the plurality of solenoid valves, when open, is fluidically connected to a space at least partially sealed by a respective flexible membrane configured to be coupled to a rear side of a surface layer;

applying a pressurized fluid through each solenoid valve of the first subset opened in the first direction to cause the respective flexible membranes of the first subset to form raised structures in a first pattern;

controlling the first subset of solenoid valves of the plurality of solenoid valves to open in a second direction based on receiving a subsequent signal;

removing the pressurized fluid through each solenoid valve of the first subset open in the second direction to cause the respective flexible membranes of the subset to form planar structures; and

controlling one or more light sources to shine light through the respective flexible membranes while in the raised structures and not while in the planar structures.

21. The method of claim 20, comprising controlling a second subset of solenoid valves of the plurality of solenoid valves to open in a first direction based on receiving the subsequent signal and applying pressurized fluid through each solenoid valve of the second subset opened in the first direction to cause the respective flexible membranes of the second subset to form raised structures in a second pattern.

22. The method of claim 20, comprising causing a negative pressure field through passages positioned between the respective flexible membranes to draw an elastic projection surface towards the respective flexible membranes.

23. The method of claim 20, comprising receiving a proximity signal indicative of proximity of a user and transmitting the initiation signal based on the proximity signal.