

CLAIMS:

1. An animated figure system, comprising:
an animated figure comprising a flexible skin layer;
an actuating system coupled to a connection location of the flexible skin layer;
and
an automation controller configured to:
access a digital model of the animated figure, wherein the digital model comprises a vertex associated with the connection location;
determine a first positioning of the vertex within the digital model; and
control the actuating system to set a second positioning of the connection location based on the first positioning of the vertex.
2. The animated figure system of claim 1, wherein the actuating system comprises an actuator and an extension, wherein the extension extends between the connection location to the actuator, and wherein the automation controller is configured to control the actuator to move the extension to set the second positioning of the connection location.
3. The animated figure system of claim 2, comprising a support coupled to the extension at a location between the connection location and the actuator via a joint that enables the extension to rotate relative to the support.
4. The animated figure system of claim 3, comprising a base, wherein the support and the actuator are coupled to the base, and wherein the support is configured to bend relative to the base as the extension moves relative to the base.
5. The animated figure system of claim 2, wherein the actuator comprises a parallel manipulator comprising a plurality of extensions that includes the extension, and

wherein the automation controller is configured to control the actuator to move the plurality of extensions to set the second positioning of the connection location.

6. The animated figure system of claim 1, wherein the first positioning of the vertex comprises a first position, a first orientation, or both, of the vertex, wherein the second positioning of the connection location comprises a second position, a second orientation, or both, of the connection location, and wherein the automation controller is configured to control the actuating system to cause the second position to correspond to the first position, the second orientation to correspond to the first orientation, or both.

7. The animated figure system of claim 1, wherein the automation controller is configured to:

determine a movement of the vertex from the first positioning to a third positioning within the digital model; and

control the actuating system to move the connection location from the second positioning to a fourth positioning based on the movement of the vertex from the first positioning to the third positioning.

8. The animated figure system of claim 1, wherein the digital model comprises an additional vertex associated with an additional connection location of the flexible skin layer, and the automation controller is configured to determine a third positioning of the additional vertex within the digital model and to control the actuating system to set a fourth positioning of the additional connection location based on the third positioning of the additional vertex simultaneously with the second positioning of the connection location.

9. An animated figure system, comprising:
an animated figure comprising a connection location;
a first actuator;

an extension comprising an end coupled to the connection location and a section coupled to the first actuator such that a length of the extension extends between the connection location and the first actuator, wherein the first actuator is configured to move the section of the extension;

a second actuator configured to extend or retract the extension to change the length of the extension extending between the connection location and the first actuator; and

an automation controller configured to control the first actuator and the second actuator to set a positioning of the connection location.

10. The animated figure system of claim 9, wherein the automation controller is configured to control the first actuator to move the section of the extension substantially along a plane.

11. The animated figure system of claim 10, wherein the automation controller is configured to control the second actuator to move the extension in a direction transverse to the plane.

12. The animated figure system of claim 9, wherein the extension is a first extension, and the animated figure comprises:

a third actuator; and

a second extension comprising a respective end coupled to the connection location and a respective section coupled to the third actuator such that a respective length of the second extension extends between the connection location and the third actuator, wherein the third actuator is configured to move the section of the second extension.

13. The animated figure system of claim 12, wherein the second actuator is configured to extend or retract the second extension to change the respective length of the

second extension extending between the connection location and the third actuator, and wherein the automation controller is configured to control the first actuator, the second actuator, the third actuator, or any combination thereof, to set the positioning of the connection location.

14. The animated figure system of claim 9, comprising a support having a support feature, wherein the length of the extension is configured to engage the support at the support feature, wherein the extension is configured to rotate relative to the support via the support feature, and wherein the second actuator is configured to extend or retract the extension through the support feature to change the length of the extension extending between the connection location and the first actuator.

15. The animated figure system of claim 14, wherein the support is a rod and the support feature is a joint or wherein the support is a panel and the support feature is an opening of the panel.

16. The animated figure system of claim 14, comprising a sleeve extending along at least one portion of the length of the extension, wherein the sleeve encloses the at least one portion of the length of the extension, and wherein the sleeve engages the support at the support feature such that the sleeve is configured to rotate relative to the support via the support feature.

17. The animated figure system of claim 9, wherein the automation controller is configured to:

- access a digital model of the animated figure, wherein the digital model comprises a vertex associated with the connection location;

- determine a positioning of the vertex of the digital model; and

- control the first actuator, the second actuator, or both, to set the positioning of the connection location based on the positioning of the vertex of the digital model.

18. A non-transitory computer-readable medium comprising executable instructions, wherein the instructions, when executed by a processor, are configured to cause the processor to:

access a digital model of an animated figure, wherein the animated figure comprises a connection location, and wherein the digital model comprises a vertex associated with the connection location;

determine a first positioning of the vertex of the digital model; and

control an actuating system of the animated figure to set a second positioning of the connection location based on the first positioning of the vertex of the digital model.

19. The non-transitory computer-readable medium of claim 18, wherein the instructions, when executed by the processor, are configured to:

determine a plurality of positionings of the vertex over a time interval, wherein the plurality of positionings represents movement of the digital model; and

control the actuating system to move the connection location based on the plurality of positionings of the vertex.

20. The non-transitory computer-readable medium of claim 18, wherein the connection location is a first connection location, wherein the vertex is a first vertex, and wherein the instructions, when executed by the processor, are configured to cause the processor to:

determine a third positioning of a second vertex of the digital model relative to the first vertex, wherein the second vertex associated with a second connection location of the animated figure; and

control the actuating system to set a fourth positioning of the second connection location relative to the first connection location based on the third positioning of the second vertex relative to the first vertex.