CLAIMS

WHAT IS CLAIMED IS:

1. A computing system for generating a virtual area for an electronically presented content item comprising:

one or more processors;

one or more memories having stored therein computer instructions that, upon execution by the one or more processors, cause at least the computing system to perform operations comprising:

receiving a plurality of rules associated with the virtual area, the plurality of rules comprising one or more terrain rules and one or more object rules;

applying the one or more terrain rules to generate terrain data associated with the virtual area;

receiving first information associated with at least one of time, season, weather, object navigation, or user input;

applying the one or more object rules to generate first object data associated with the virtual area, wherein the one or more object rules are applied based, at least in part, on the terrain data and the first information;

providing the first object data for performing a first rendering of at least part of the virtual area in association with the first object data;

receiving second information associated with at least one change to at least one of time, season, weather, object navigation, or user input;

re-applying the one or more object rules to generate second object data associated with the virtual area, wherein the one or more object rules are re-applied based, at least in part, on the terrain data and the second information, wherein at least one of the plurality of rules relates to a distribution that is adjustable during execution of the electronically presented content item and applicable, after adjustment, by spawning one or more new objects in agreement with the adjustment without stopping and restarting the execution; and

providing the second object data for performing a second rendering of at least part of the virtual area in association with the second object data.

2. The computing system of claim 1, wherein the virtual area is divided into a plurality of sub-areas, and wherein each sub-area has one or more associated components that apply one or more of the plurality of rules within their associated sub-area and that report information associated with application of the one or more of the plurality of rules within their associated sub-area.

3. A method for generating a virtual area for an electronically presented content item comprising:

receiving a plurality of rules associated with the virtual area, the plurality of rules comprising one or more terrain rules and one or more object rules;

applying the one or more terrain rules to generate terrain data associated with the virtual area;

receiving first information associated with at least one of time, season, weather, object navigation, or user input;

applying the one or more object rules to generate first object data associated with the virtual area, wherein the one or more object rules are applied based, at least in part, on the terrain data and the first information;

providing the first object data for performing a first rendering of at least part of the virtual area in association with the first object data;

receiving second information associated with at least one change to at least one of time, season, weather, object navigation, or user input;

re-applying the one or more object rules to generate second object data associated with the virtual area, wherein the one or more object rules are re-applied based, at least in part, on the terrain data and the second information, wherein at least one of the plurality of rules relates to a distribution that is adjustable during execution of the electronically presented content item and applicable, after adjustment, by spawning one or more new objects in agreement with the adjustment without stopping and restarting the execution; and

providing the second object data for performing a second rendering of at least part of the virtual area in association with the second object data.

4. The method of claim 3, wherein the virtual area is divided into a plurality of sub-areas, and wherein each sub-area has one or more associated components that apply one or more of the plurality of rules within their associated sub-area and that report information associated with application of the one or more of the plurality of rules within their associated sub-area.

5. The method of claim 3, further comprising providing a user interface that allows information associated with the plurality of rules to be presented and updated during execution of the electronically presented content item and that allows the plurality of rules to be adjusted during execution of the electronically presented content item.

6. The method of claim 3, wherein at least one object rule indicates at least one of an a density or distance between one or more objects, an object appearance, an object behavior, an amount or distribution of one or more object types, object characteristics associated with one or more times, seasons, or weather conditions, object characteristics in relation to one or more types of terrain, object characteristics in relation to one or more other objects, or object characteristics in relation to one or more boundaries or positions.

7. The method of claim 3, wherein at least one terrain rule indicates at least one of an amount or distribution of one or more terrain types, a terrain appearance, a berm sharpness, a mountain height, a valley intensity, terrain characteristics associated with one or more times, seasons, or weather conditions, terrain characteristics in relation to one or more boundaries or positions.

8. The method of claim 3, further comprising maintaining at least one of a time of day or a time of year in association with the virtual area, and wherein at least one of the plurality of rules is applied based, at least in part, on at least one of the time of day or the time of year.

9. One or more non-transitory computer-readable storage media having stored thereon instructions that, upon execution by one or more compute nodes, cause the one or more compute nodes to perform operations comprising:

receiving a plurality of rules associated with a virtual area, the plurality of rules comprising one or more terrain rules and one or more object rules;

applying the one or more terrain rules to generate terrain data associated with the virtual area;

receiving first information associated with at least one of time, season, weather, object navigation, or user input;

applying the one or more object rules to generate first object data associated with the virtual area, wherein the one or more object rules are applied based, at least in part, on the terrain data and the first information;

providing the first object data for performing a first rendering of at least part of the virtual area in association with the first object data;

receiving second information associated with at least one change to at least one of time, season, weather, object navigation, or user input;

re-applying the one or more object rules to generate second object data associated with the virtual area, wherein the one or more object rules are re-applied based, at least in part, on the terrain data and the second information, wherein at least one of the plurality of rules relates to a distribution that is adjustable during execution of the electronically presented content item and applicable, after adjustment, by spawning one or more new objects in agreement with the adjustment without stopping and restarting the execution; and

providing the second object data for performing a second rendering of at least part of the virtual area in association with the second object data.

10. The one or more non-transitory computer-readable storage media of claim 9, wherein the virtual area is divided into a plurality of sub-areas, and wherein each sub-area has one or more associated components that apply one or more of the plurality of rules within their associated sub-area and that report information associated with application of the one or more of the plurality of rules within their associated sub-area.

11. The one or more non-transitory computer-readable storage media of claim 9, wherein the operations further comprise providing a user interface that allows information associated with the plurality of rules to be presented and updated during execution of the electronically presented content item and that allows the plurality of rules to be adjusted during execution of the electronically presented content item.

12. The one or more non-transitory computer-readable storage media of claim 9, wherein at least one object rule indicates at least one of an a density or distance between one or

more objects, an object appearance, an object behavior, an amount or distribution of one or more object types, object characteristics associated with one or more times, seasons, or weather conditions, object characteristics in relation to one or more types of terrain, object characteristics in relation to one or more other objects, or object characteristics in relation to one or more boundaries or positions.

13. The one or more non-transitory computer-readable storage media of claim 9, wherein at least one terrain rule indicates at least one of an amount or distribution of one or more terrain types, a terrain appearance, a berm sharpness, a mountain height, a valley intensity, terrain characteristics associated with one or more times, seasons, or weather conditions, terrain characteristics in relation to one or more boundaries or positions.

14. The one or more non-transitory computer-readable storage media of claim 9, wherein the operations further comprise maintaining at least one of a time of day or a time of year in association with the virtual area, and wherein at least one of the plurality of rules is applied based, at least in part, on at least one of the time of day or the time of year.