Claims

1. A method, comprising:

traversing, by a system comprising a processor in a top-down manner, a hierarchical tree of user interface elements, wherein the hierarchical tree of user interface elements comprises a parent user interface element that has a pre-child user interface element that depends from the parent user interface element in the hierarchical tree;

rendering, by the system on a display device during the traversal, a representation of the pre-child user interface element at a first time based upon pre-child logic associated with the pre-child user interface element; and

rendering, by the system on the display device during the traversal, a representation of the parent user interface element at a second time that is later than the first time.

2. The method of claim 1, further comprising determining, by the system via the pre-child logic, whether to render the representation of the pre-child user interface element based upon state data associated with at least one of the pre-child user interface element or the parent user interface element.

3. The method of claim 1, wherein the rendering of the representation of the pre-child user interface element comprises rendering the representation of the pre-child user interface element as a highlight in a position that appears beneath the representation of the parent element once the representation of the parent element is rendered at the second time.

4. The method of claim 1, further comprising rendering, by the system on the display device during the traversal, a child user interface element, depending from the parent user interface element at a third time that is later than the second time.

5. The method of claim 1, further comprising determining, by the system, at the parent user interface element that the pre-child user interface element is to be invoked based upon state data.

6. The method of claim 1, wherein the rendering of the representation of the pre-child user interface element comprises animating the representation of the pre-child user interface element over a plurality of rendering frames.

7. The method of claim 1, wherein the pre-child user interface element has a dependent pre-child user interface element in the hierarchical tree, and further comprising, rendering a representation of the dependent pre-child user interface element at a third time that is prior to the first time.

8. The method of claim 1, wherein the pre-child user interface element has a dependent child user interface element in the hierarchical tree, and further comprising, rendering a representation of the dependent child user interface element at a third time that is after the second time.

9. A system comprising:

a processor; and

a memory communicatively coupled to the processor, the memory having stored therein computer-executable instructions, comprising:

a hierarchical tree of user interface elements, wherein the hierarchical tree of user interface elements comprises a parent user interface element that has a pre-child user interface element that depends from the parent user interface element; and

an application program that:

traverses at least part of the hierarchical in a top-down manner;

renders, during the traversal on an output device, a representation of the pre-child user interface element at a first time based upon pre-child logic associated with the pre-child user interface element; and

renders, during the traversal on the output device, a representation of the parent user interface element at a second time that is after the first time.

**10**. The system of claim **9**, wherein the application program determines, using the pre-child logic, whether to render the representation of the pre-child user interface element based upon state data associated with the parent user interface element.

**11**. The system of claim **10**, wherein the state data corresponds to at least one of: a focused state, a hovered state, a listening state, a selected state or a pressed state, or any combination of a focused state, a hovered state, a listening state, a selected state or a pressed state.

**12**. The system of claim **9**, wherein the pre-child user interface element is associated with a set of style property values that are used to determine one or more characteristics of the representation of the pre-child user interface element.

**13**. The system of claim **9**, wherein the pre-child user interface element has a dependent pre-child user interface element in the hierarchical tree that if invoked, renders before the representation of the pre-child user interface element.

**14**. The system of claim **9**, wherein the pre-child user interface element has a dependent child user interface element in the hierarchical tree that if invoked, renders after the representation of the pre-child user interface element.

**15**. The system of claim **9**, wherein the representation of the pre-child user interface element comprises a shape that appears as a highlight relative to the representation of the parent user interface element.

**16**. One or more machine-readable storage media having machine-executable instructions, which when executed, cause a system comprising a processor to perform operations, comprising:

traversing, in a top-down manner, a hierarchical tree of user interface elements, wherein the hierarchical tree of user interface elements comprises a parent user interface element that has a pre-child user interface element that depends from the parent user interface element;

rendering, during the traversal, a representation of the pre-child user interface element based upon state data associated with at least one of the parent user interface element or the pre-child user interface element;

rendering, during the traversal, a representation of the parent user interface element after the rendering of the representation of the pre-child user interface element.

**17**. The one or more machine-readable storage media of claim **16**, the operations further comprising rendering, during the traversal, a representation of another pre-child user interface element prior to the rendering of the representation of pre-child user interface element, the other pre-child user interface element depends from the pre-child user interface element in the hierarchical tree.

**18**. The one or more machine-readable media of claim **16**, the operations further comprising rendering, during the traversal, a representation of a child user interface element of the parent user interface element after the rendering of the representation of the parent user interface element.

**19**. The one or more machine-readable media of claim **16**, wherein the rendering the representation of the pre-child user interface element comprises rendering a highlight that is relative to the representation of the parent user interface element.

**20**. The one or more machine-readable media of claim **16**, wherein the rendering the representation of the pre-child user interface element comprises animating the representation of the pre-child user interface element in conjunction with animating the representation of the parent user interface element.